YACHTING

Volume LIII February + 1933 Number II

Exploring Royal Island Harbor, Bahamas

Up Through the Bahamas

The Auxiliary Ketch "Alice" Meets an Inopportune "Norther"

By VINCENT GILPIN

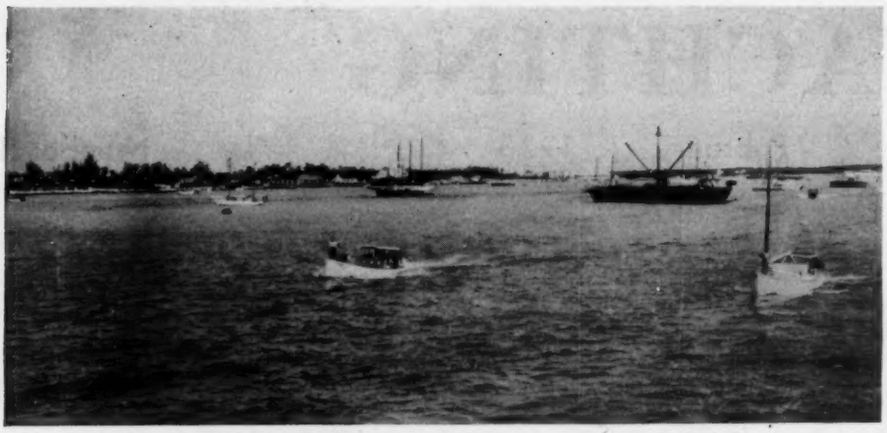
FEW small sailing yachts enter the Bahamas by way of Great Inagua, just north of Haiti, as did *Alice*, in January, after a month in the Windward Islands. The snug and able 52-foot ketch, belonging to Mr. Henry Howard and manned by himself, three friends, a sailor and a cook, had sported with the lusty trade wind for 3000 miles. Leaving Cap Haitien, in the queer little Black Republic, at nightfall, we had a gorgeous run, under the full moon, over the 120-mile course to Inagua. We had allowed for a westerly current, however, and when we raised the island we were off its east end, twelve miles from Mathewtown, on the southwest corner! In the village they said at once, "Oh yes, there *is* usually a set to the west, but on the first three days of the full moon it is reversed, and flows eastward." It sounds queer, but it certainly checks with our experience.

We wandered over the neat but lonely little town, inspected the imposing old "Salt-house," now partly ruined, in which once centered the only business of the island — salt making by evaporation — visited the salt pans, wondering at the flocks of gorgeous flamingos which fed in them, and consorted with a friendly and prosperous negro bootlegger. We learned that the town was empty because many south-bound steamers call here to pick up a complement of stevedores for the round trip to nearby South American ports, where labor is "chancy," so that the best job on the island is off it. I was especially interested in an anchor recovered from an eighteenth century wreck on the reefs north of the island; its shape was exactly that of the "Cape Ann," by all odds the most efficient pattern yet produced.

As the sun declined we made sail for San Salvador, with the intention of inspecting Columbus' footprints. It was an extremely quiet night in both wind and water, but one of somewhat ticklish navigation all the same, and rather interesting. Our first landmark was Castle Island Light, off the foot of Acklin Island, ninety miles away, and halfway to it lies a curious reef called the Hogsty, unmarked, and an awkward obstacle when the water is too smooth for surf. It is the nearest thing to an atoll in the West Indies, being a nearly complete circle of coral patches surrounding a fairly well-sheltered lagoon, in which vessels sometimes anchor. I should think the perils of entrance would outweigh its dubious shelter.

We had sufficient evidence of variation in currents to take no chances, and laid a course to clear the reef by about 15 miles. As a matter of fact we had plenty of guidance in an unexpected way, for we were in the Crooked Island Passage, used by most of the traffic between New York and Panama, and through the night an endless succession of steamers patrolled the route; there must have been 25, while in all the rest of the two-month cruise we had seen not half that number.

The night passed without incident. Castle Island rose in its proper place in the early morning light, and during the heart of the day we skirted the great bight between Acklin and Crooked Island, very lazily, on delightfully smooth water, with a light and somewhat variable breeze. The brilliant greens in these shallows, over the golden sand, were very lovely. There would be much of beauty and interest in cruising these lonely reaches — if only there were time to do everything!



"Alice" slipped into Nassau and found a harbor full of yachts

We planned to lie at Castle Island until evening, to avoid reaching San Salvador before daylight next morning, but the fickle breeze did not bring us to the former dubious anchorage until well on in the afternoon. We had lost the trade; the wind was working southward with the prospect of going west, and we had no mind to be caught on a lee shore in any of these open coral-fringed anchorages. In the end we examined the tiny village through the glass, and passed on.

It was strange to travel so long on water as smooth as a lake, with one of the deepest and most open parts of the Atlantic just to the east. The Great Bahama Bank, with Long Island and Rum Cay on its edge, lay only a few miles west, and the offshore breeze continued mild — too mild for progress. We need not have worried about arriving too early; it was 10:30 in the morning before we ran in toward San Salvador roadstead.

By this time the wind was well in the west and the anchorage was definitely on a lee shore. There was apparently some shelter behind the irregular bunches of coral rock, but they looked very much in the way in entering, and the sailing directions were not encouraging. From aloft the rocks seemed to be sprinkled about most promiscuously, and the water being as clear as air, it was very hard to judge of comparative depths.

All in all, we became increasingly doubtful about the wisdom of stopping; in any case, the time was now short for our original intention of crossing the island to the monument on the Atlantic side which is supposed to mark the landing place of Columbus. Finally, in accordance with the more recent opinion that Columbus was too good a sailor to land on the windward shore, as the east side usually is, we concluded that we were then gazing at the scene of his actual landing, and sheered off to proceed northward.

The weather contributed to this decision, for there was every sign of trouble in the near future. It looked like the beginning of a norther, and since there was no comfortable harbor ahead short of Royal Island, on the Northeast Providence Channel, around the head of Eleuthera, it behooved us to get that far before anything broke. So far the shift had been so very slow that we rather thought it would stay variable until we made it, and in that hope we headed northwest for the north end of Cat Island, which would give us a good lee for the night.

The afternoon was quiet, and the night even quieter, with no further shifts in wind; we made reasonable progress, though not what we would have liked, and morning found us somewhere between Cat Island and Eleuthera, neither of them far away, but both invisible under a dirty sky. Broken clouds drifted across, and as the sun rose the wind began to shift westward. By the time we figured that we were off Palmetto Point (above which the island trends northwest for 10 miles to the Providence Channel) the wind was north of west and we could no longer lay our course, but worked slowly offshore.

The imposing old "salt house," Inagua, in which once centered the business of the island

The wind had grown steadily, and by this time we were under single-reefed mainsail, double-reefed mizzen, and storm jib. After a time we tacked inshore, close under Eleuthera, for better progress in smooth water, and to sight the land and get a definite position if possible. As to the latter, I can only say that anyone who confidently identifies any part of these long, low, monotonous, palm-fringed islands is an unqualified optimist! Certainly a cruise in such lonely, unmarked seas makes for appreciation of lights and buoys and other commonplace landmarks.

The clouds constantly thickened, and it was not long before a brief but lively thunder squall broke. The wind, of course, was knocked out, and we rather expected it to come in from the northwest when the flurry was over, but it gave us only a heavy dash of cold rain and returned to its sullen threats from the west. Half an hour later the hurrying clouds once more assembled, ripened into a squall, buffeted and drenched us, and subsided into their uneasy scud from the west. It was tantalizing — with all indications of an imminent shift, nothing happened.

The third time, however, late in the afternoon, we could not make that complaint. This was the worst of the three — a really lively affair, with buckets of rain, and when it was over we had our shift with a vengeance. Not northwest, but *north-northeast* it came, blowing "right out endways, butt end foremost!" The water, of course, was smooth, but it fairly boiled under this onslaught, and in a few minutes a sizzling, cresting sea was snapping at *Alice* like a pack of wolves.

She behaved beautifully, though her single-reefed mainsail was a heavy load. That was our first job, and it was soon down and smothered; you may be sure there was no question of a harbor furl on that swooping, shimmying deck, inclined beyond possibility of foothold, and swept by sheets of heavy spray. We got the massive crutch up, thankful for the huge wrought-iron hooks which held it, then with one man at the lift and two on the clew, juggled the boom into it, passed its heavy lashings, and breathed more freely.

But this proved to be one of the times when everything happens at once. The engine was running, for both speed and control in these messy conditions, but hardly was the mainsail stowed when smoke began to pour out of the engine room skylight; it was overheating violently and had to be stopped at once. The jacket-water intake had kicked out on a sharp sea, circulation had stopped, and the cylinder was red hot. Under the remaining bits of sail (storm jib and double-reefed mizzen), the yacht was virtually hove to, heading about northwest, and slowly drifting nearly west. She was quite comfortable, in spite of a very steep and rapidly mounting sea, which threw frequent heavy crests on board forward — spectacular but not troublesome, as she would spill the deck-load on the first roll, and bob up serenely.

So we caught our breath, and took account of stock. Land was hidden by clouds, rain and spray, and had been for some time, but by the best reckoning we could work out we were north of Eleuthera, in a position to square away west and south for Royal Island. We had hoped to enter there that evening by help of Egg Island Light, just to the west. That was impossible in the rain, but we might run into the lee of Abaco at the Hole in the Wall, or, at worst, we could heave to and drift down the Providence Channel toward Nassau during the night.

We were just on the point of slacking the mizzen for a westerly course when the smother to leeward cleared away before the gale, and there, under our lee bow, a scant two miles away, was a wild tumult of surf, bursting on the coral reefs off Eleuthera and almost hiding the scattered palms on shore. Tableau! We were *not* clear of the island by any means, but were now drifting straight toward it, and had to get out to windward *pronto* if we were to save *Alice's* bones from the rocks, and ourselves from a boiling quarter-mile of breakers. For the moment we were safe, for our drift was slow; on the other hand, we were going steadily, the sea was rapidly becoming trémendous, it was near dusk, and the engine would not be cool enough to start for some time yet.

"Put the mainsail on her," was the first thought, but it was blowing like the very devil and there was only one reef in it; with roller reefing gear the sail must be set before more could be turned in, and it looked like a nasty job, with some chance of losing the sail. The wind was well north of northeast, and the island ran northwest, so the port tack would give us considerably better drift, and possibly keep us clear without more canvas. The first thing was to shift to it.

Under the conditions we could not get enough headway to tack, so it was "wear ship," while the skipper went over his engine to make sure it was ready for service the moment it cooled. I tried to swing her as she stood, but the mizzen was too much for the storm jib, and she wouldn't pay off. So I got Charles and Luis on the sheet, slacked a few feet, and away we went. There wasn't much chance to choose a smooth, the seas were so short and so close together, and just as we got before the wind a regular old "he-one" humped himself high against the gray sky behind, topped with a haystack of white which gleamed brilliantly against the clouds. I steadied her just a bit, lest it catch us on the quarter as we swung, yelled to everybody to hold on, and caught my breath — but nothing happened. The good little ship just ran ahead of the break, and the sea swung her gently and smoothly aloft as it ran under.

What with this diversion and an inexperienced helper, Charles was unable to get back any of that sheet as we swung, and there was nothing to do but let it come over when it would — after all, it was scarcely more than started. So around she spun, the leech lifted, and *whang* came the sail, breaking Luis' hold

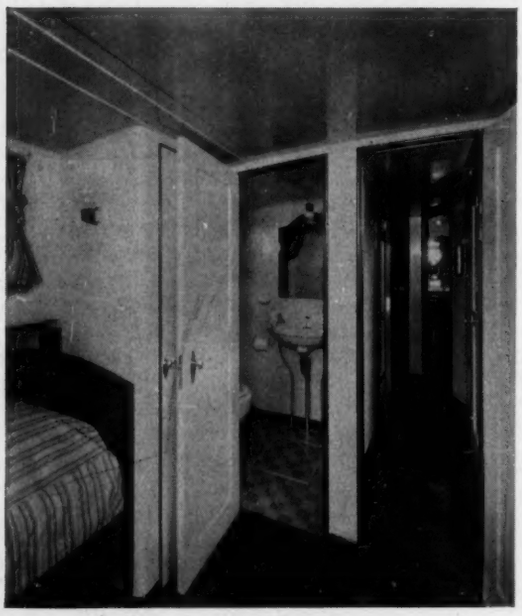
(*Continued on page 108*)

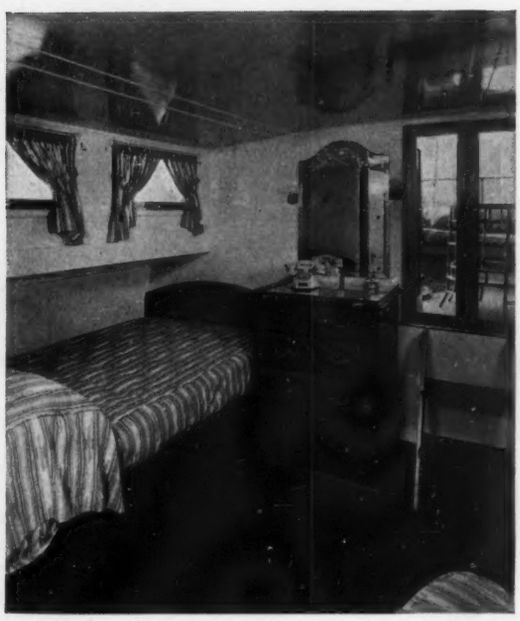
The anchor which was recovered from an eighteenth century wreck

The tiny harbor of Royal Island was as quiet as a mill pond

"Alrema"

A 75-Footer for the Great Lakes





A new 75-foot power cruiser for use on Lake Michigan and the Great Lakes, "Alrema" was built in 1932 by the Great Lakes Boat Building Corporation and proved her sea-going qualities on Lake Michigan late in the season. Of pleasing appearance, "Alrema" has plenty of speed, her two 500 h.p. Winton gasoline engines driving her at 30 statute miles per hour

"Stowaway" is a husky 38-footer. She made a 691-mile cruise last season on a total cost for fuel and oil of $20.65. Who says anything about the high cost of yachting?

"Stowaway"

What It Costs to Operate a Small Diesel Cruiser

By H. J. BROWN

AS FAR as I know, information concerning the operating costs of small and medium sized power driven cruisers has not been generally published. In prosperous times I presume that yachtsmen, even though engineers like myself, who are usually concerned with the cost of things, consider the operating expense of their amusements inconsequential.

When, however, it is a question as to whether a ship shall be put in commission or not, depending upon what it may cost to operate her as compared with some other form of vacational recreation, or even none at all, data as to operating expense becomes pertinent.

In line with the universal desire for the practice of economy, I was somewhat undecided last spring as to whether or not I ought to place *Stowaway* in commission. I knew, in a general way, from the experience gained in the two previous seasons, that the cost of operating her was low, but I had no detailed records to show just what it had been for 1930 and 1931. I determined, therefore, to place the boat in commission and to have the hauling and the painting of the topsides and bottom done by the "yard" in the usual way, leaving any work needed in the way of painting the house and decks and varnishing to be done by my son and myself. (I know now that all this could have been done more quickly, and at probably no more expense, by the yard.) I then planned to spend the season on board with my wife, son, and the family dog, cruising along the coast of Maine, coming and going at will, accumulating, meanwhile, accurate data upon which to figure actual operating costs for future use.

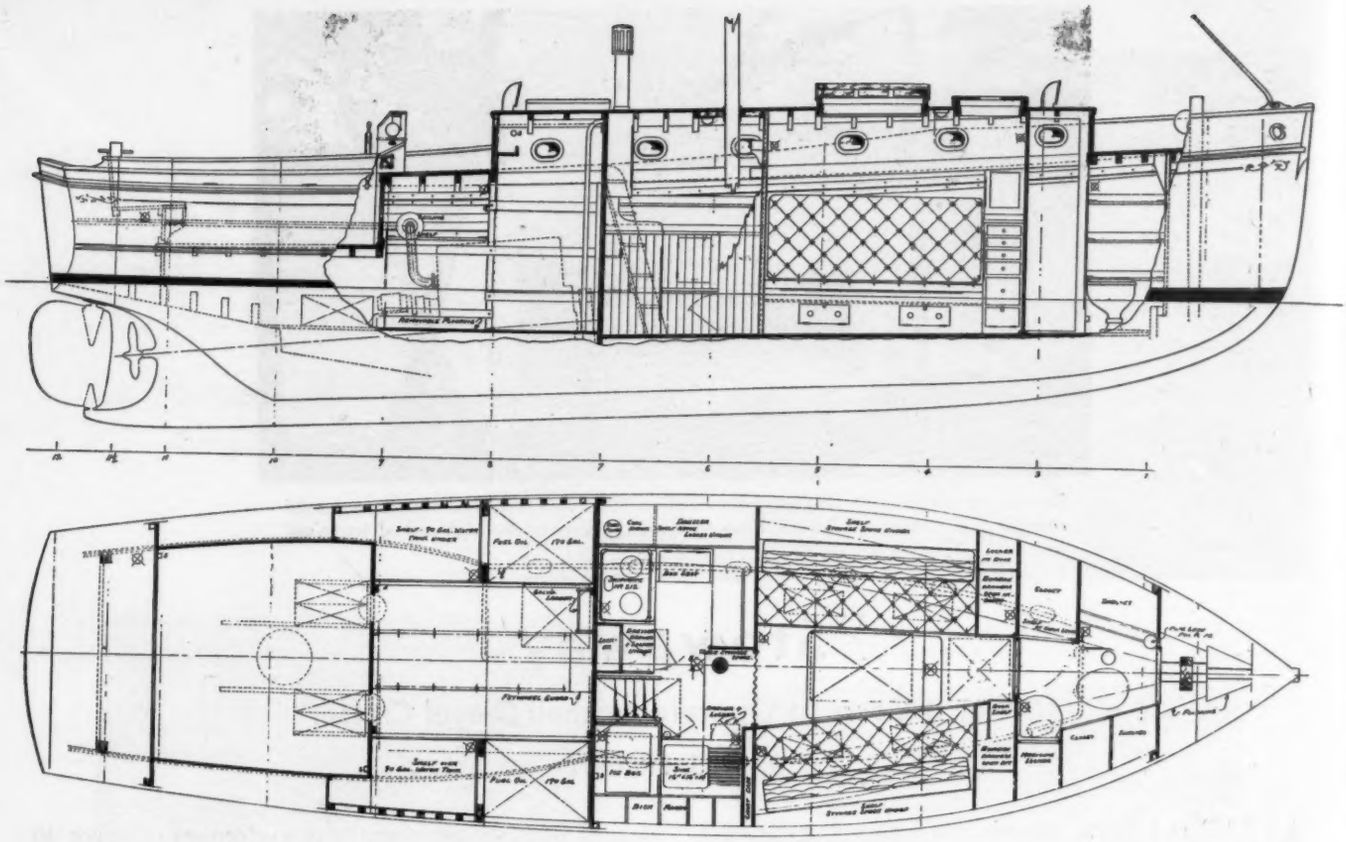
To acquaint you with the ship whose operating costs I shall later give you, *Stowaway*, with an overall length of but 38 feet, is probably the smallest cruiser powered with a full Diesel which travels the Eastern seaboard. Designed under the close supervision of Dwight Simpson, of the firm of John G. Alden, with Alden himself fussing over her lines, she was a special job to meet my own ideas of what a safe, seagoing power cruiser of under 40 feet should be.

Being strongly influenced by John Ives Sewall's description of Jere Wheelwright's *Mildred IV*, an account of which appeared in YACHTING for July, 1927, I claim no specific originality for *Stowaway's* type, but I do, nevertheless, take credit for even heavier construction than *Mildred's*, and for a safe, economical power plant. In this the designer fully encouraged me. As both ships were designed in the same office, I feel no shame at the influence of Sewall's article or my acceptance of what I believe to be good design.

Stowaway was launched in August, 1930, from Harvey Gamage's yard at South Bristol, Maine, just across the river from *Mildred's* birthplace. She was delivered to me just in time to be fitted out for attending the America's Cup races off Newport, that fall. With 1550 pounds of ballast outside, and another 1000 pounds inside along the keel, she immediately demonstrated a wonderfully easy motion and a handiness in maneuvering in and amongst the fleet at the races, which was a revelation to all on board.

Stowaway is of unusually heavy construction for her size. She displaces something over 12 tons with tanks full and supplies aboard. One of the men who worked on her construction called her a "tug," a remark at which I was inclined to take offence until I thought of the ocean-going species — safe in all kinds of weather, and on the job. Then I recognized that the man's remark had been intended as a compliment to her sturdy lines and build, both of which have attracted attention and favorable comment wherever she has been seen.

It was my requirement that *Stowaway* be fitted with a safe, economical power plant, with no explosive fuel anywhere below deck, which made imperative the selection of Diesel power. In satisfying this specification, I chose a 6-cylinder Cummins Model "U" engine, having a bore and stroke of 4½" x 6" and carrying a rating of



Accommodation plan and inboard profile of "Stowaway"

72 h.p. at 1200 r.p.m. So *Stowaway* was designed and built around this engine. The only compromise with the idea of safety which was made anywhere in this ship was in providing for the charging of the lighting batteries. For this purpose, a 400 watt, 12 volt, gasoline driven, United States Motors Company generator was installed in a portable box located in the cockpit. This box is chocked at the bottom and lashed to the cockpit staving, and is provided with rope handles. The wiring from the set is plugged into a receptacle alongside. In case of fire, the lashings can be cut quickly and the whole affair heaved overboard. Gasoline for fuel for this set is kept in a two-gallon can approved by the Underwriter's Laboratories. No spillage can get below deck, but must run out through the cockpit scuppers.

To house the main power plant, tanks for fuel and water, batteries, and all other mechanical equipment, other than what I call the "outside generating set," just described, there is, as will be seen from the plans, an engine room large enough to permit getting at and working upon any part of the engine or engine room equipment at sea, if need be. This engine room is a real joy — clean, airy, and with a place for everything and with everything in its place, most of the time.

I have no doubt, as my records indicate, that *Stowaway's* power plant is larger than is needed for her size. Four cylinders might have done fully as well, but I fell in love with the "six" and successfully resisted all attempts at installation of a smaller engine.

This excess power is something I have never regretted. I get a lot of satisfaction in knowing I have sufficient power to drive the ship into it in a blow, or to haul me off mussel banks or mud flats when my local knowledge is at fault or my navigation too elementary. Excess power does not mean the same thing as when one is using a more expensive fuel. Moreover, the quiet "purr" of the "six" from over the stern does provide a whale of a kick, too!

As for speed, *Stowaway's* eight knots at a thousand revolutions, and a hair over eleven when turning up to twelve hundred, as averaged when clocked in both directions over the Rockland course, seems sufficient. I am not in so much of a hurry going places that I either need, or want, more speed. It is remarkable, too, how much one can see and enjoy in the course of a day's run at this speed.

Aside from being steady, safe and comfortable above and below deck, and as convenient as a pocket in a shirt, *Stowaway* is dry. Never has she taken solid water over her rail, either forward or aft in heavy going, of which she has seen plenty. Heading into it in a blow, spray will come aboard in sheets, and some persons, no doubt, would object to the open cockpit and exposed steering position, but to me — well, I want to be out where I can see when things are rough and not cooped up behind glass with the spray hiding the land or seascape.

By this time you will have come to the conclusion that I think my ship is just right. I do! And so much for that!

This last Spring *Stowaway* was put in commission in early July. On July 19th after spending a week or more on the waters about Boothbay Harbor, I put 143 gallons of 28°–32° gravity fuel oil, such as the fishermen along the coast use, into her tanks, which hold 365 gallons. This amount of fuel filled them to the brim, and represented what was used in the tag end of the previous season around Marblehead and Gloucester, a run from Marblehead to the Eastward and the usual jogging about one invariably does when in a reluctant mood against laying up until another year. In addition must

be counted such running as was done for the two weeks or more just previous to this filling — altogether, some 65 hours of engine operation, if my memory serves me correctly.

Then, with all tanks and the ice box and lockers full, *Stowaway* turned her nose to the Eastward. Tennant's Harbor, Rockland, Rockport, Camden, Islesboro, North Haven, Stonington, Somes Sound, North East Harbor, Bar Harbor, Sorrento, Winter Harbor, Jonesport, Bucks Harbor on Machias Bay, Cutler, were visited and runs were made through the passages, reaches and channels which make up between the countless islands off the coast of Maine and which make it a veritable cruising paradise. Then through Eggemoggin Reach and Penobscot Bay, and back to Boothbay Harbor.

Five weeks of glorious cruising, covering over 691 nautical miles as measured upon the charts, and an actual running time, between ports and excluding searching for moorings or idling time of the power plant, of 76 hours. During this time I kept an accurate log of power plant performance.

Upon arrival at Boothbay Harbor I again filled the fuel tanks to the brim. To do this it took exactly 210 gallons of fuel oil, at a cost per gallon of seven cents, or a total of $14.70. This cost represents the cost of fuel used during the cruise.

An analysis of costs and data for that cruise shows the following:

Distance run	691 sea miles
Hours run	76
Average speed, with and against wind and tide	9.09 knots
Cost of fuel oil	$14.70
Lubricating oil used	7 gals.
Cost of lubrication	$5.95
Fuel oil consumed	210 gals.
Fuel consumption per hour	2.763 gals.
Nautical miles per gallon	3.29
Gallons per nautical mile	0.3039
Cost of fuel per hour	0.1934
Lubrication per hour	0.0782
Total cost per hour	0.2716
Cost per nautical mile	0.02127

The reason for the excessive cost of lubrication is that I accepted too light an oil for my use, which resulted in excessive consumption during the voyage under discussion.

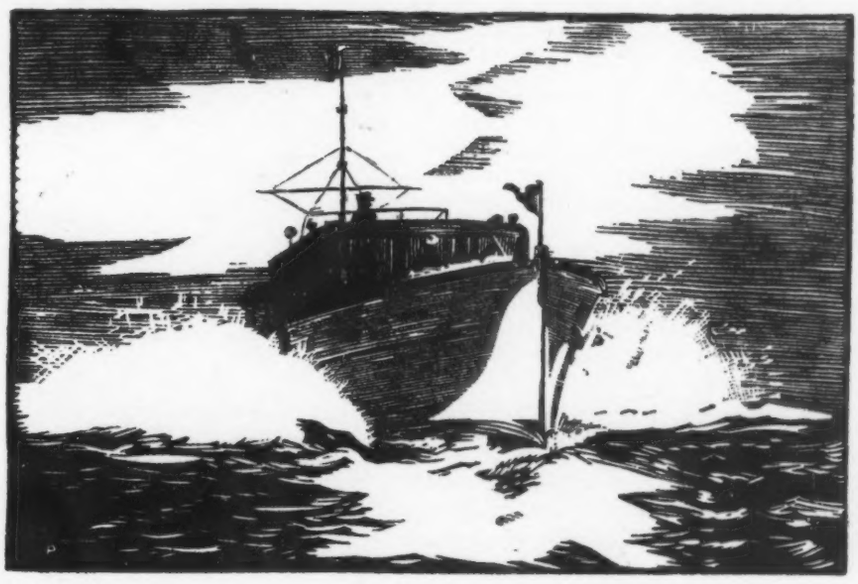
From the headquarters of the oil company supplying the fuel oil used on this trip I got the information that the oil I used weighed 7.6 pounds per gallon. This weight, converted into pounds per hour consumed, gives a factor of 20.9988 pounds per hour, or, in round figures, 21 pounds. At the usual cruising speed of around 1050 r.p.m., I estimate, roughly, that if it takes 60 h.p. to turn a 22-inch diameter by 14-inch pitch three-bladed wheel 1000 r.p.m., as the tables show, it will probably take from 50 to 55 h.p. to turn *Stowaway's* 22-inch by 13-inch three-bladed wheel. At these rates of power development the fuel consumption rate works out to 0.3812 and 0.420 pounds per h.p. per hour respectively. The first figure seems to be too good, as my engineering experience and training tell me, so I accept the latter figure as conservative. I am sure of all basic data other than power developed and I have no means of checking this. I am quite confident, however, that the power plant is sufficiently economical to satisfy the most critical owner.

In considering these figures as applying to a boat, however, it must be remembered that they do not take into consideration either interest on the primary investment on the craft or Diesel engine, nor depreciation, taxes and insurance, all of which vary with the first cost of boat and power plant, the age, and with the taxable location. I do feel, however, that the figures will interest all yachtsmen and especially those who pay the bills.

While this story has been concerned primarily with the cost of ship operation, there are other expenses entering into the cost of cruising which are entirely pertinent. But since "household" expenses aboard ship vary so widely and depend to such a degree upon personal taste, culinary ability or skill in following the *Galley Guide*, no attempt will be made to give any figures. Good living, however, is one of the prime requisites of happy and contented days afloat. On the other hand, good living need not necessarily be expensive living. We lived well on the cruise I have outlined, and were surprised to find how cheaply it was done.

All of this should encourage every lover of the water who has been keen to own a boat, but who has feared the expense of operation, and it should point the way to the automobile enthusiast who is fed up with congested highways. The facts are particularly significant as to what can be done with a safe cruiser of *Stowaway's* type in times of depression — or at any other time.

So — come aboard, mates! Don't give up your ships!

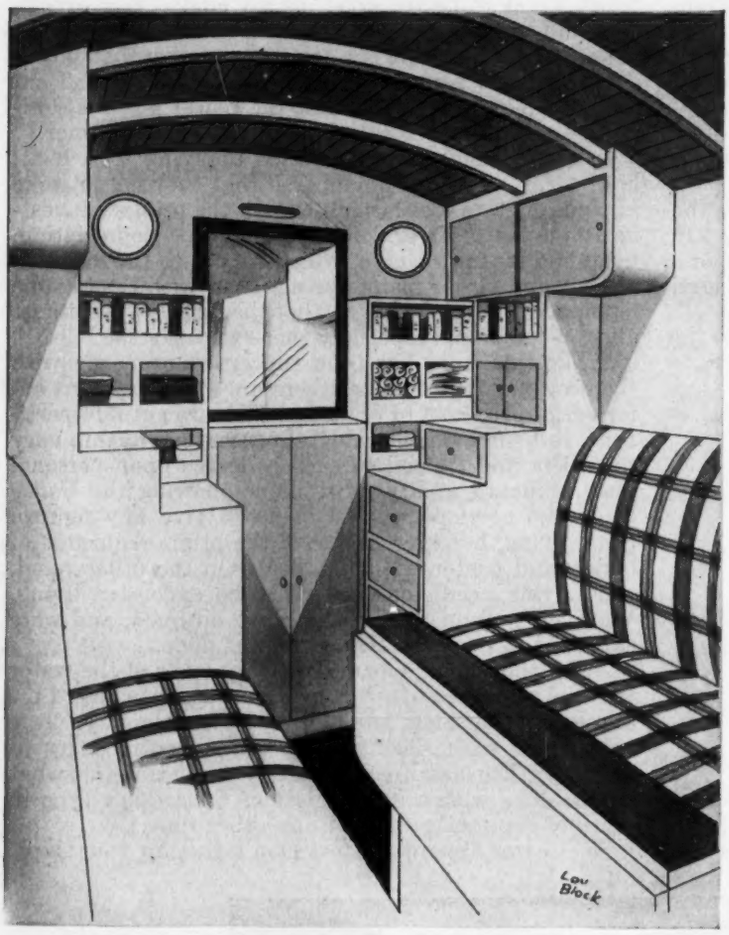


Going Modern

The Applicability of Modern Design to the Small Power Cruiser

By LOU BLOCK

IN VIEW of the accomplishments in recent years in the field of modern planning and furnishing of small apartments, it is surprising that so little has been attempted along these lines in small cruisers.

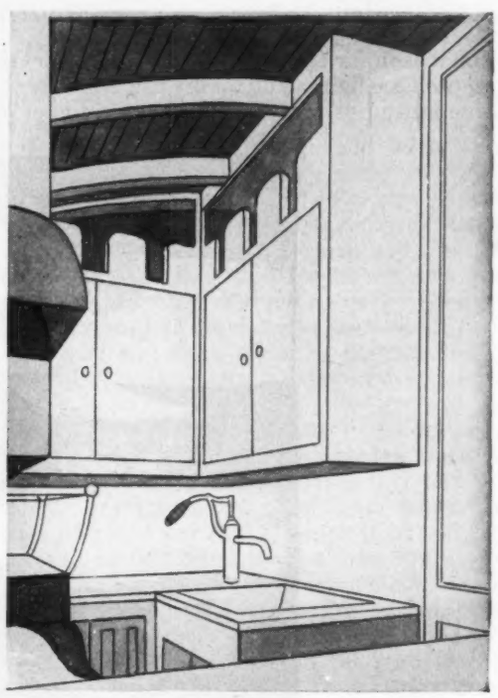


Modern principles of interior architecture have been so valuable in developing an economical use of space that their application to small boat planning should be seriously considered. The space limitations in a cabin power cruiser under forty feet provide an ideal opportunity for modern construction.

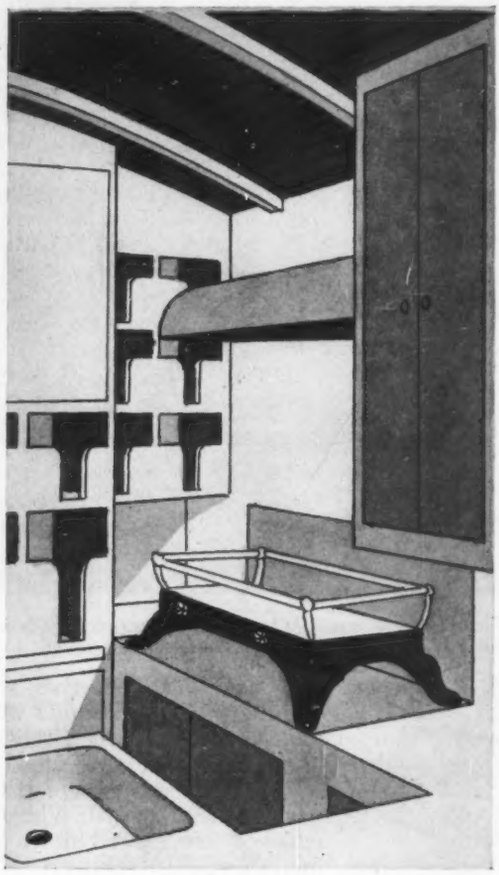
The cruiser of today really cruises. Dependable engines and seaworthy design have extended the cruising radius of small boats to a degree which a few years ago would have seemed reckless. The cabin boat is becoming the summer home of an increasing number of people, and every effort should be made to achieve home comforts — ample locker space easily accessible, a galley in which really enticing food can be stored and prepared, and a sufficient allotment of space to each person aboard for all the odds and ends which make personal comfort possible. That the manufacturers of stock cruisers appreciate this is amply shown by the careful utilization of space in many of the recent boats.

Modern design, as applied to furniture and almost every accessory used in the home, has more than proved its utilitarian value. The essence of the principle employed is the simplification of design in all the familiar things with which we live. Manufacturers in many divergent fields of production have realized the commercial and practical advantages of this simplification as applied to their products. The process of styling, as it is called, has become almost universal in the past two or three years, and the greatest testimonial to its practical value lies in the fact that this change of form in familiar objects has been accepted everywhere. An example of this change may be seen in the marine motor. Years ago the physical appearance of an engine was controlled by the shapes assumed in the various working parts. The question of design was subordinated by the striving for mechanical efficiency. More recently, however, engineers have been able to think of design. With the ability to create dependable motors established, they began considering problems of simplification, so that today we have well balanced machines, compactly built and relatively easy to install. Architects and designers in other fields are employing similar methods to give a greater efficiency and a better appearance to objects which have proved their utility.

The purpose of this article is to stress the fact that the application of modern principles in cabin planning does not mean any great



departure from conventional designing. The problem remains the same — a certain amount of space, into which must be fitted the essentials for comfortable living. The reasons for advancing this principle seem fairly obvious. First, it permits greater economy of space, thus enabling the designer to supply more con-



veniences, and second, it is a logical improvement in cruising efficiency.

The accompanying drawings illustrate what might be done in a single cabin cruiser 35 feet long. You will notice the simplicity of construction, and that the forward end of the saloon is practically one single unit. An uncrowded, crisp looking effect is achieved. Lockers under the berths on each side, a full length locker in the passage at the after end of the saloon, the forward unit containing twelve drawers, about fourteen feet of open shelving and several cupboards, provide ample storage, easily accessible, for the needs of four people.

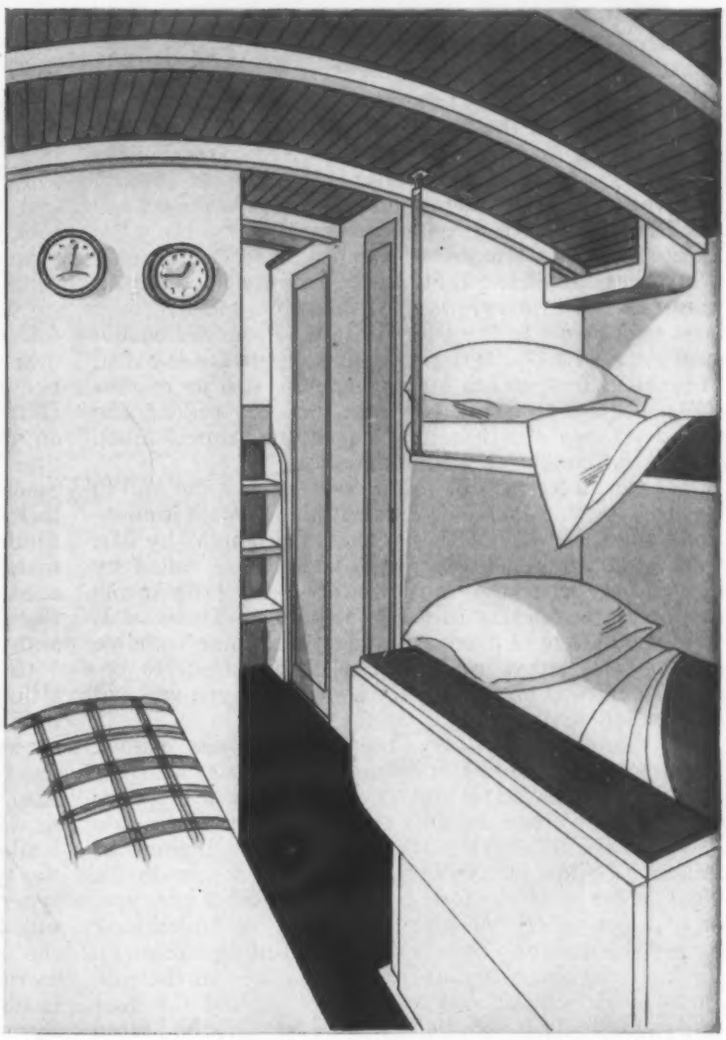
Under the most ideal conditions, and with utter congeniality on board, a party of four on an extended cruise in a small boat will strike some rough spots. One of the usual reasons for irritation is the accumulation of clothes and small gear on bunks. The best shipmate will sometimes find himself unable to face the problem of moving several things in order to stow some article of gear, and the bunk is always handy. At meal time, or when turning in, charts, oilskins and all the gear of a busy day have to be unsnarled and stowed before life can go on. Much of this can be avoided if the lockers and drawers are right out where they can be reached, with no trouble. The ugliest reef is no greater hazard to a happy cruise than a growing irritation in the party on board.

The crispness of design is relieved by color. We are all accustomed to the customary white paint and bright mahogany. In the saloon, as pictured here, serviceable shades of gray on the sides and woodwork, with blue overhead, and black linoleum on the floor, is indicated. Chromium steel judiciously used flashes up the cool severity of the cabin. The mirror is framed in steel, and the facing on the berths is of steel. The berths are upholstered either in leather, corduroy, or other serviceable fabrics. The table is built of native walnut, unstained and well varnished, and set into a base of chromium steel.

The galley on the starboard side abaft the saloon is small, but well equipped with shelves and cupboards. The ice box on the after bulkhead has a 15-inch door, and is commodious inside. The ice-fill is on deck next to the wheel box. The sink, the hood over the stove, and the facing on the shelf under the stove are of polished metal.

Lighting arrangements have many possibilities. Built-in lights faced with clouded glass can be placed wherever needed. A small light in a locker which goes on when the door is opened, and a light at the head of a bunk, pullman fashion, are useful. The exercise of imagination in placing lights has much to do with the ultimate comfort of the cabin.

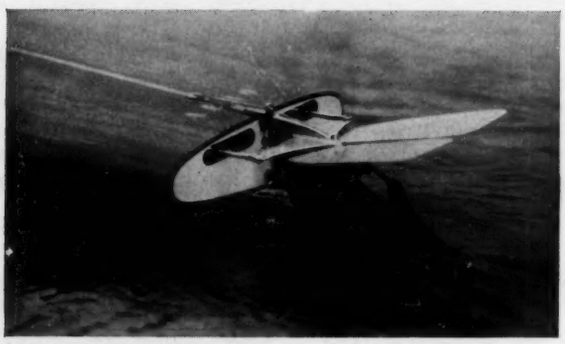
(*Continued on page 112*)

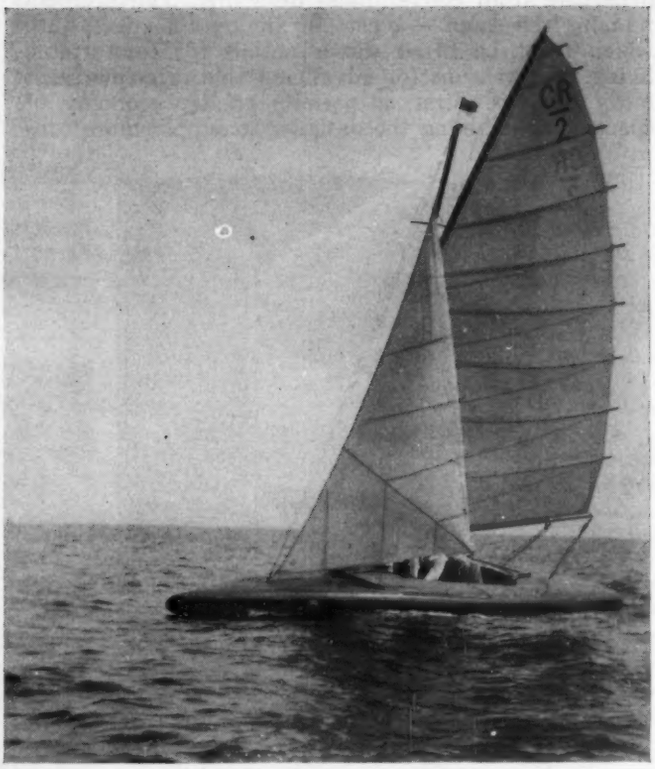


That Curry Racer

By

HERBERT L. STONE





"Barracuda" close hauled in a light breeze. She moves very easily in the lightest of airs. At left, the drop rudder and the brake

AT THE Motor Boat Show a year ago there was exhibited for the first time in this country a 28-foot racing boat developed by Dr. Manfred Curry. Dr. Curry's theories on aerodynamics are well known here through the numerous articles and books he has published on the subject, and this racer, embodying the latest ideas of Germany's foremost small boat racing skipper, attracted much attention. The boat and her rig were unusual in every way. Nothing like her had ever been seen before in the United States. From her batten gunter rig, with its overlapping jib to create the so-called "funnel" effect, to her mahogany hull with its reverse sheer, heavily crowned deck and the drop rudder, she was a strange creature to all eyes and caused much speculation among racing men.

In order to try her out on this side of the water and to learn if possible just how efficient the various innovations might be, one of these boats was bought by Mr. C. T. Ludington, of Philadelphia, and was sailed by him and the writer in Florida waters in the early spring and on Barnegat Bay in the late summer. These trials were productive of much enjoyment and some valuable information, but were on the whole inconclusive because there was nothing of the same size, type and sail area to sail against.

In Florida, the Curry boat, which was named *Barracuda*, after that fast-swimming fish, met a highly mixed fleet of varied rig and size, but most of which were displacement boats. Against these boats the *Barracuda* had but little difficulty in winning easily on all points of sailing, in spite of the fact that she was new to us. None of her crew was used to sailing a boat of her type, or had had experience with the batten rig, which took some adjustment and study to get the proper tension on the battens and, therefore, the right curve in the sail. But enough was learned to convince us that the boat was exceedingly fast in light winds and that the batten sail and overlapping jib was most effective when properly trimmed. Even in light airs *Barracuda* would jump forward and commence to plane when the sails were trimmed to just the right slot opening (wide at the entrance and narrow at the after leach, where the jib took the same general curve as the mainsail). When this proper trim was not achieved she slowed down perceptibly and was "just plain boat."

On a length of 28 feet over all, and a beam of about 6 feet, with a very shallow hull, and 200 square feet of measured sail area (20 square metres), she sailed against boats both larger and smaller. These included the Herreshoff sloop *Water Lily* with about 300 square feet on about 23 feet of length (if I remember correctly), a Star boat with 280 square feet, and a number of the Suicide Class, 19 to 22 feet over all and with 125 square feet of sail area. In this competition the Curry boat would leave the fleet without any difficulty, though her margin was much wider in light winds than in heavy ones. But as she was of very much less displacement, this did not prove very much, except that she could go, and that she was at her best in light winds.

On Barnegat Bay the story was quite different, although even here the results were inconclusive. The breezes on Barnegat are notoriously fresh and we knew we would be up against it on those waters in a boat that must be kept "on her feet" to get the most out of her. Also, we would be trying her out against the Class E scows, perhaps the fastest boats of their length in the United States, sailed by crews who were accustomed to the type. No formal races were sailed between the two types, but on three or four occasions the boats were sailed together over a course. The Class E scows are of the same over all length as the Curry boat, 28 feet, but carried 285 feet of sail to the latter's 200, in a high jib-headed rig. With the two boats side by side, the scows towered over the *Barracuda* as a line-of-battle ship over-

tops a gun brig. Off the wind, in breezes up to, say, 8 to 9 miles per hour, the Curry boat could hold the scows, and would usually draw away from them in a drift. On the wind it was more difficult to keep the Curry boat on her feet, and while she footed as fast, and looked as high, she slid off to leeward more than the scows. Perhaps this was because we didn't know how to adjust her centerboard to the best advantage.

As it breezed up above ten miles per hour, the scows were faster, and as the wind increased the difference became more marked. The scows carried their bigger rig, while the *Barracuda* had to have a few turns of her mainsail rolled up on the boom of her roller reefing gear. The difference in sail area and height of rig make it difficult to reach conclusive results — and then, again, a crew used to the Curry boat might get more out of her than the scratch crews we used on *Barracuda*.

In analyzing the performance of the Curry racer, it is difficult, because of the lack of a second boat of the same sail area, size and type to sail against, to determine how much of her speed is due to her rig. If you will look at the picture of the *Barracuda* hauled out, you will notice how little there is of her in the water. She literally "floats on a heavy dew," and it takes but little to move her. Here, I believe, is the main cause of her speed in light air. If she can be kept on, or nearly on, her sailing lines, she moves very easily, and this, I take it, accounts for her drifting better than the scows when the latter are on nearly an even keel. But when the Curry boat heels she puts her side in the water and increases her wetted surface, whereas the scows decrease their wetted surface as they get over on the edge, or chine. The shape of the hull of *Barracuda* being what it is, the difficulty is to keep her on her feet in even a moderate breeze, and while she is still fast under these conditions, she is not as fast as the scows.

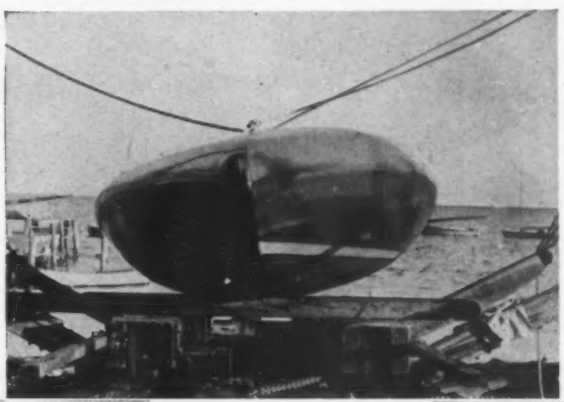
The batten rig also gives an advantage in moderate airs, and by accentuating the wind forced through between the jib and the mainsail, which is held to its shape by the battens, the rig is more efficient in light breezes. The *Barracuda* will reach her maximum speed more quickly than a scow in moderate winds, but her maximum in a breeze is, I believe, not nearly so great as is that of the Class E boats, and she cannot carry her sail as well. So, in fresh breezes, we see the scows carrying full sail of 285 feet and attaining a speed of 13 knots or better on a reach, while under the same conditions the 200 feet of area of the *Barracuda* is reduced by some 20 per cent, to perhaps 160 square feet.

The only way to determine the relative values of the batten sail and one without battens is to try one of Dr. Curry's rigs on a Class E scow, or on a Star Class boat, and sail her against boats with the regular rig. My guess is that the batten rig would prove the faster. I also hear that Dr. Curry's latest racer has the tall Bermuda sail with five full-length battens instead of the gunter rig. It would be interesting to see a comparison of the two rigs under actual sailing conditions.

The gadgets on the *Barracuda* were all helpful and proved their worth. The leads of the head sheets through the deck were good, and the adjusting devices for the rigging were adequate. The drop rudder proved its worth, and by lowering it when on the wind a better hold on the water was possible and a better balance. When raised the rudder had less wetted surface and offered less resistance.

The brake caused a lot of comment, some of it caustic. It has its value, however, in certain conditions, although

(Continued on page 116)



Hauled out, showing underbody and shape of sections. It will be noted how little wetted surface there is when the boat is upright

+

On a close reach. In sloppy going the water rolls off the oval deck without coming aft, and she is drier amidships than the scows

+

The slot between the Genoa jib and batten mainsail gives what Dr. Curry calls the funnel effect

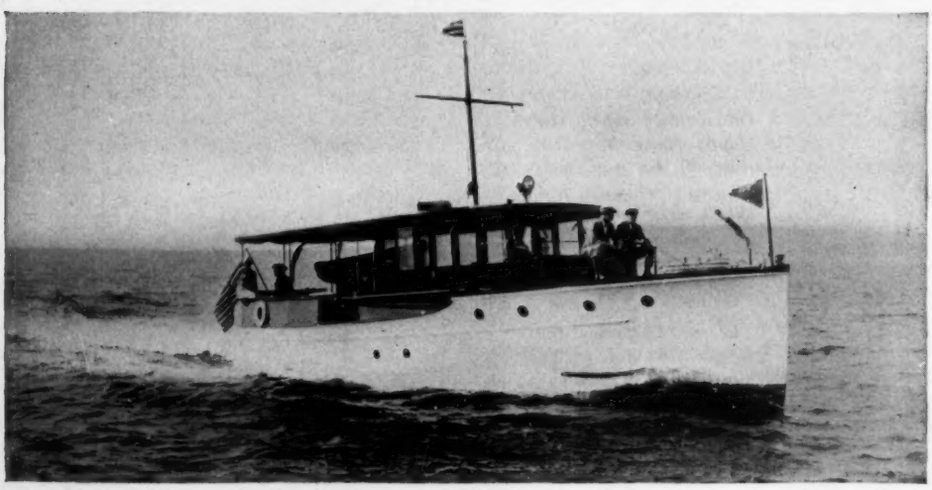
Power Boat Cruising

+

"Restless II" getting underway from Buffalo for a cruise up Lake Erie. Owned by David T. Wende, this 83-footer from the board of Hacker & Fermann, Inc., is a smart example of the modern fast cruiser. She is powered with two Sterling Dolphin motors

Frederick Pohle

Ray Chapin



At Catalina Island, on the Pacific. Part of the fleet anchored off the Isthmus during the joint family cruise of the California, Long Beach, Los Angeles, and Catalina Island Yacht Clubs

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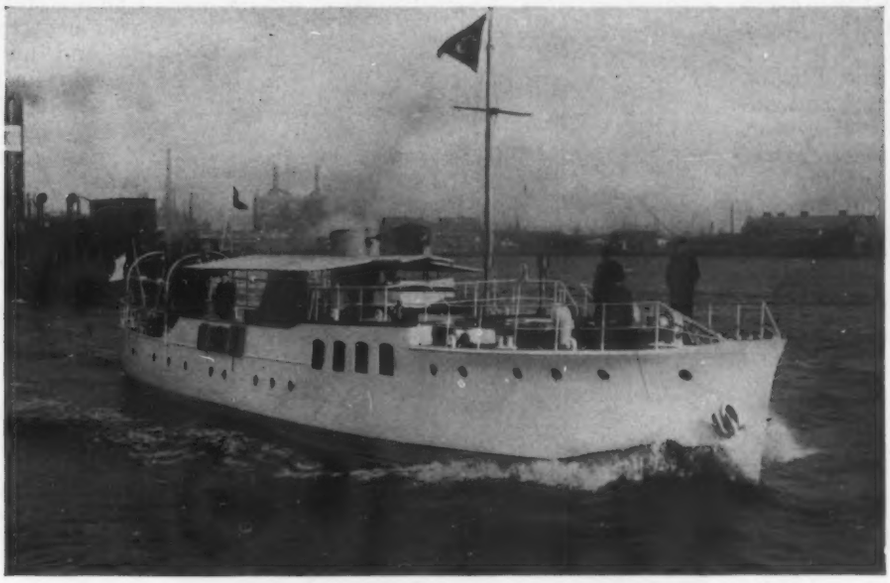
Bound "Down East." A 42-foot Elco cruiser with accommodations for six and one paid hand, which offers plenty of comfort for a prolonged cruise. One of these boats is exhibited at the 1933 Motor Boat Show in New York



"Flêche Blanche," an 85-foot twin-screw steel power cruiser exhibited by G. DeVries Lentsch at the recent Salon Nautique, Paris. She shows the British influence in her design, the plans being by Norman Hart

The Salon Nautique

Annual Paris Motor Boat Show is Held Outdoors

By L. LUARD

THIS year the seventh International Nautical Exhibition was not held in the Grand Palais, Paris, but followed the procedure adopted in 1930. Temporary housing was erected in the Cours Albert Ier, near the banks of the Seine, and the various yachts exhibited were moored alongside the adjoining quays. This plan seems as good as the usual one, if not better; the exhibits are concentrated, and instead of having to leave the Grand Palais and walk across traffic-congested roads to inspect the yachts afloat, the connoisseur steps from marquee to the quayside in his search of the ideal. But the general public, it seems, much prefer the Grand Palais; the illusion is stronger, the contrast greater. The entrance to the lofty, domed edifice, which rises austere and majestic from the surrounding trees, represents the door of the robber's cave — a modern open sesame.

Despite these depressing times the exhibition fell little short of its usual standard, though fewer exhibitors were represented. But once again those firms which, from the yachting aspect, have always been its mainstay, mustered in full strength: Chantiers De La Liane, Amsterdamsche Scheepwerf, Despujols, Jouët, and others. And the finish and general standard of their products left nothing to be desired.

Pride of place in power craft was taken by G. De Vries Lentsch with *Flêche Blanche*, an 85-foot, 85-ton, Diesel-engined twin-screw steel motor yacht, designed by Norman Hart and built to the order of Monsieur Calmette. A notable and interesting production in every way, she is the third, and largest, of a series based on *Cela*, well known in English waters — a series which combines comfort, accommodation, seaworthiness, economy, and character, in full measure. This yacht had to be capable of negotiating the French canals; consequently her beam is restricted to 15 feet, her draft to 5 feet 9 inches, and, in addition, the upper part of her funnel is detachable. She has a large raised saloon just forward of the helmsman's shelter (shown in the photograph by partially rectangular windows), another smaller smoking saloon on the port side aft, a double cabin, two single cabins, an engine room larger than that of an M.L., with full length work bench, an ingenious deck cockpit — ideal for children — just abaft the funnel, and a bathroom that rivals the majority of those ashore. Moreover, the accommodations forward for the crew are ample, and the galley, opposite which is the captain's cabin, is all that could be desired. Up to date in every way, beautifully finished and constructed, and powered with two 120 h.p. Gleniffer Diesels, giving a speed of ten knots, I doubt whether improvement is possible within the limits of size and purpose.

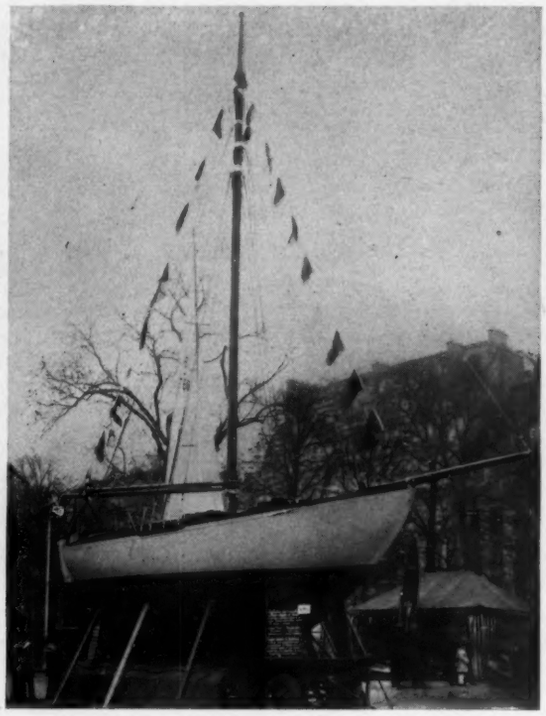
The two Despujols express cruisers were similar to those formerly exhibited, the larger being 46 feet overall, powered with Chrysler Majestic engines of 150 h.p., which gave a speed of 28 knots. Splendidly built and finished, this boat has sleeping accommodations for six, and a fair-sized cockpit abaft the engines. The smaller one was of much the same design, and as so little change has been made by this enterprising firm, the behavior of these craft at sea must be all that is desired.

Jouët's 35-foot camping cruiser, a standard product, was an ingenious attempt to provide a day cruiser that could be converted by means of canvas roof and sides to sleep an entire family. Powered with a 20 h.p. Badouin, situated under the forward cockpit, she was moderately priced, and the 'midship cabin, dividing the two cockpits, was a model of neatness and capacity. A small

Dutch-built 30-foot steel cruiser completed the larger craft.

There were few speed boats, a Dodge 16½-footer, and another exhibited by Excelsior, being the most representative; but several outboard hulls attracted attention, and the work put into some of the canoes could be surpassed only with difficulty.

In sail, Chantiers De La Liane, as usual, headed the list with a 36-foot flush-decked modified Colin Archer type Norwegian gaff cutter, the modifications being in beam and draft — 10 feet and 5 feet 7 inches, respectively. Planked with Oregon pine on oak frames, copper-sheathed, and with accommodations finished in varnished mahogany and white enamel, she appeared, I thought, a husky little ship and a great improvement on the former productions. Spars and rigging were of ample strength and well designed for single-handed work, the double forestays, sensibly spaced, being the first I have seen in a pure cruiser — an arrangement which saves time and trouble when shifting headsails, and which is worth adopting in most yachts. Her accommodations, working from forward to aft, consisted of a fo'c'sle, with two built-in berths, bulkheaded off from a lavatory and wash basin which occupied the whole width of the ship. Then came the saloon, with folding berths and plenty of locker space, followed by a galley on the port side aft, opposite which was another built-in berth. Access to the motor space was by doors abaft the accommodation ladder. Throughout, headroom of 5 feet 10 inches under the beams had been contrived — an achievement of great merit, taking into consideration the limited draft and the absence of unnecessary freeboard. Her price of $4,300 (without engine) was as reasonable as her construction and design were sound.

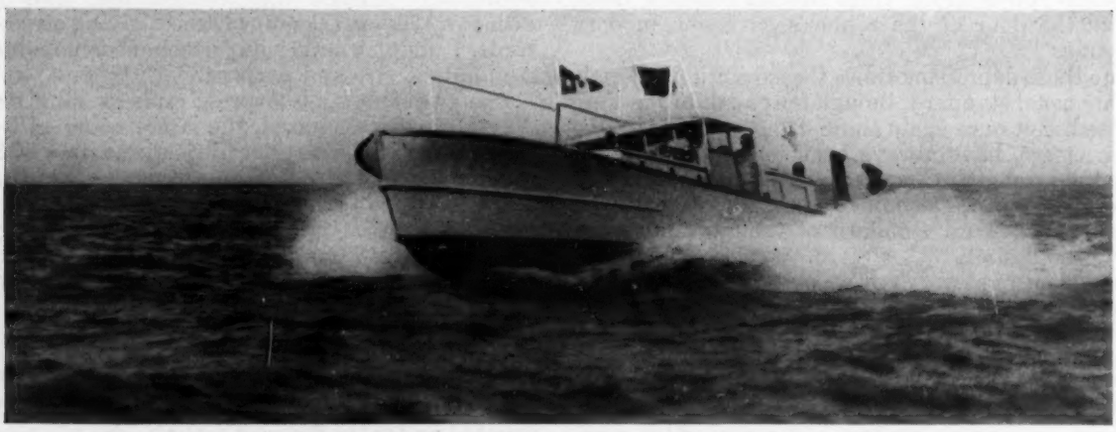


A 36-foot auxiliary cutter exhibited at the Paris open air motor boat show

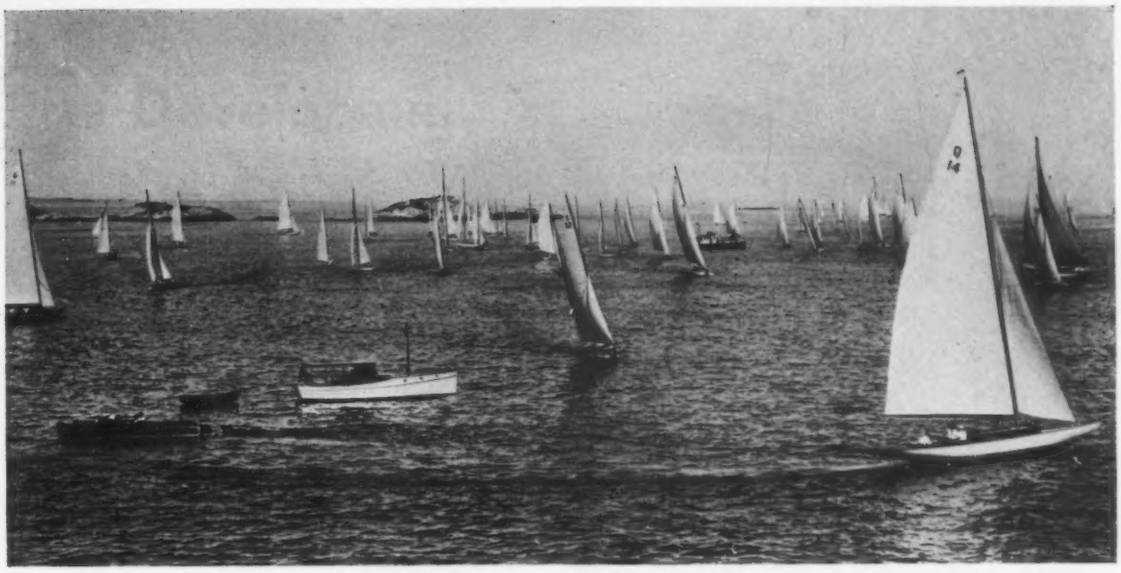
Several one-design classes were shown — Chats; a Chatou sharpie, a development of the American Lark; Canards, rather like a Star but with centerplate instead of a fin and bulb keel; and still smaller half-decked 13-foot Plongeons, priced as low as $250. These one-designs are increasing in popularity every year, especially among the youngsters, and the reasons are not far to seek. They combine low original cost, low upkeep, and first-class sport in sheltered waters.

Doctor Manfred Curry's latest racing machine, an oval sectioned 28-footer — one can hardly call her a boat — was also shown, and attracted much interest, the braking fins above her adjustable rudder creating some pungent comment — typically French. Fore and main halliards led inside the mast; the Bermudian mainsail had five full-length battens, extending from leech to luff, and even the shrouds passed through the deck, their rigging screws being shackled to the foot of the mast. Despite the ingenuity of this freak product, most people realized that she was in advance of the times — suitable not for the ordinary sailing man, but for the expert, the scientific-minded enthusiast.

No outstanding developments in engines were featured, high-speed Diesels again being the most in evidence. But several firms who remained faithful last year to petrol and paraffin units have now entered this established field, amongst them being Badouin and Hispano-Suiza. Renault showed a new 4-cylinder 20 h.p. high-speed Diesel running at 1,000 r.p.m., with incorporated reduction gear, Bosch fuel pumps and injectors, and the usual electric starter. Of outboard motors Johnson and Elto are too well known to need comment, and a Delage 21-foot triple-skinned mahogany runabout was fitted with an inboard engine of the same make, embodying an outboard drive with an ingenious arrangement which causes the outboard casing to rise and automatically close the throttle if an obstruction on the bottom is encountered.



One of the two Despujols express cruisers shown. She is 46 feet long and makes 28 knots with two Chrysler Majestic engines of 150 h.p. each



Racing off Marblehead Neck. The sport there will be especially active this year, with prospects of considerable international competition

Active Season Forecast in New England

By WILLIAM U. SWAN

WHAT competitive yachting of the sail will touch another high water mark in New England the coming season, the pecuniary situation to the contrary notwithstanding, seems assured from the fact that practically all of the hundred yacht clubs which encourage the sport and which dot the coast between New Haven and Mt. Desert, will be in commission and many of them are already plotting a course of attractive events between late June and mid-September.

Few people realize the amount of organized yacht racing that goes on every summer along the coast from Long Island Sound to Maine, where the sport started nearly a century ago with the memorable brush, off Tarpaulin Cove, between the *Breeze*, of Boston, and the *Wave*, of New York, on August 4th, 1839. Yet last summer the 53 clubs which raced boats in Massachusetts waters held nearly a thousand events in which more than 18,000 starts were recorded, many of the boats, of course, sailing in a score or more of races. This remarkable expression of competitive activity was made possible, in a degree, by the formation of eight new clubs, and the return of four older organizations which had been out of the picture since the war.

It is scarcely necessary to state that aside from a dozen "Q's," half a dozen Eight-Metres, a bunch of 30-Square-Metres at Marion, Marblehead, and Northeast Harbor, and the new 23-footers at Fisher's Island, the fleet was made up entirely of knockabouts and cats of under twenty feet waterline. But a very large majority of these boats were out two or three times a week, and some of them raced every day. As their conditioning is not expensive, and there is no federal tax and only a small local one, there is every indication that the breakfast table debate as to who shall sail the family craft that day will be resumed, probably more vigorously than ever.

Starting from the ancient white tower on the east side of New Haven Harbor, you will not have to progress very far before you run into a bunch of boats at Pine Orchard, underneath Faulkner's Island and, from here on, little fleets of small sail craft will be found about every five miles or less. Interclub racing along the Connecticut shore became so popular in the last few years that last summer the Eastern Long Island Sound Race Committee was organized, embracing Pine Orchard, Duck Island, Madison Beach, Sachem's Head, Fenwick and Shennecosett, with half a dozen new clubs about to be formed, some of which will be out for new boats.

Although Old Mystic has been more or less of a popular pleasure port for three-quarters of a century through the start made by D. O. Richmond and the Mallory family in the early fifties, very few yachtsmen in either New York or Boston ever heard of the Mason's Island Club until its officials staged the leading intercity Frostbite Regatta of the fall, and tossed the Plant Cup for the dinghy championship of the continent into the aquatic arena. This latter event, for which New York, New London, Providence, and Boston will hold eliminations, will be sailed early in May, as a wind-up of the second season of sailboat racing in high latitudes.

Just what Narragansett Bay would do without "Jeff" Davis it is difficult to imagine. Not only is he an inspiration to every Star boat owner the world around, but he has kept up the interest in small boat sailing among eighteen yacht clubs located along both shores from Point Judith salt pond to Brenton's Reef. While admitting that the big open regattas of last summer were somewhat below the average in the number of starters, he says that there was more club racing than ever before, and that the fleets will be larger the coming summer. Rhode Island came within a few seconds of winning the junior championship last summer and it will

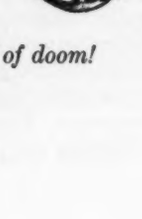
(*Continued on page 124*)

To a Marine Hardware Catalog

By FRED MURPHY

O you find romance on a printed page —
In Masefield's tars of a windjammin' age?
Or sailing with Kingsley's good Bideford lads,
Or good old Cap Slocum, or Villiers' or Conrad's?
Then dreams you'll weave from a little book —
It's great for a pipe and a library nook —
Got up for the trade with a businesslike air,
Just a catalog of marine hardware.
There's romance even in abrasives and zincs,
Cowl ventilators, and cast iron sinks,
All classified neatly, numbered and weighed,
They whisper of voyages yet to be made!
Of shipyards and sea winds and strange ports of call;
Of fitting and rigging and good ships and tall;
Of spindrift and trade winds and storm clouds and squall!

There's a steering wheel — teak, with a rosewood rim
(On the Koro Sea when the wild moon's dim
To be held by your grinnin' Fijian crew;
Oh, the clouds fly past as the ship flies too!)
And sextant, chronometer, compass and log —
We'll plot out our course through the storm and the fog;
So, safe into Capetown or tiny Brava,
Off Marthas Vineyard or the coast o' Java.
Here's a galley range for Maine in the fall,
To keep coffee hot and stew on call,
And bake those pies of the doctor's and all.
Here's a cushioned chair for a lazy day
In the warm Bahamas — Hatchet Bay —
Communin' with a tall and frosted glass
And only to loaf, and to watch time pass.
Then . . . Barometers (Down like the hand of doom!



Outside the harbor the breakers boom).
Anchors — and fifty fathom of chain
Stretching like string when it takes the strain.
Oh pray it'll hold till the hurricane's past!
Good Lord, how it's howlin' around the mast!
Rockets and flares — if it comes to the worst;
Bilge pumps — we'll pump till our arms drop off first!
Capstans — it's calm again. Break the hook out.
Ho! Heave with a song and bust with a shout!

Yes, the volume breathes of the Gulf Stream's blue,
With mast hoops, chain plates and deadeyes too;
And foghorns, moaning like souls in hell.
And running lights — burning so bright and well
On a clear, cold night by Reykjavik —
Watch the Northern Lights when you stand your trick.
Here are tidy brass cabin lamps, set on gimbals
To swing as she rolls, sending shadowy symbols
A-leaping around the snug little cuddy
When you're gammin' there with a buddy.
Scrapers and caulking irons, paint and tools —
At the yard in Spring. Oh, they are fools
Who pass up the smell of copper paint
And tar and shavings and kindred taint;
Who moon of Springtime in woodland bowers
And the much less pleasant smell of flowers.
Port lights — They're frames for a foreign shore.
Ice chests — They hold a sufficient store —
Turn bottoms up and then ask for more!

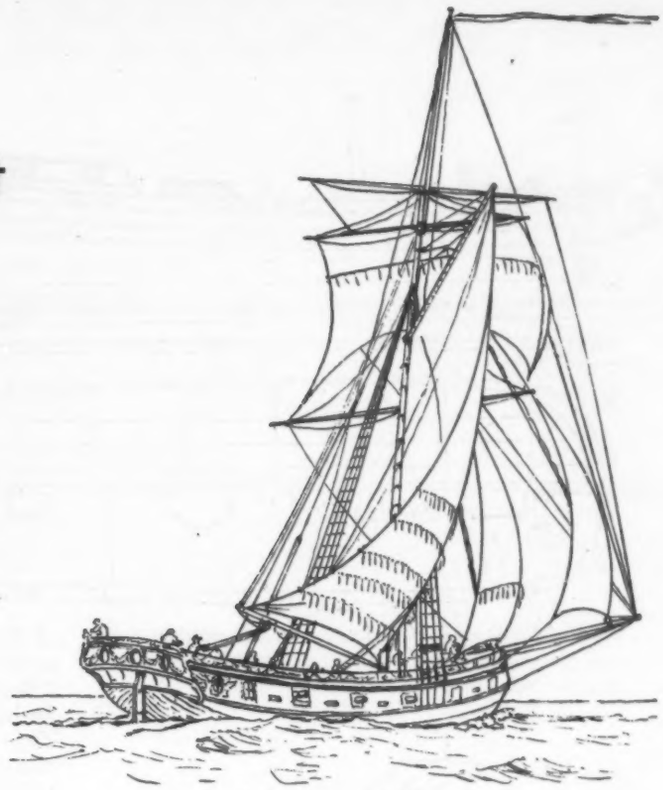
There's hardware for cabin and rigging and hull,
For a dream ship trim as an offshore gull;
To sail on the pipe smoke — and some day the sea!
You may have Sabatini, but as for me,
When I cruise away in an easy chair
It will be with a book of marine hardware!

The Development of the Sloop

The Evolution of the Single Mast from the Early Dutch Boats of the 17th Century

By

C. G. DAVIS



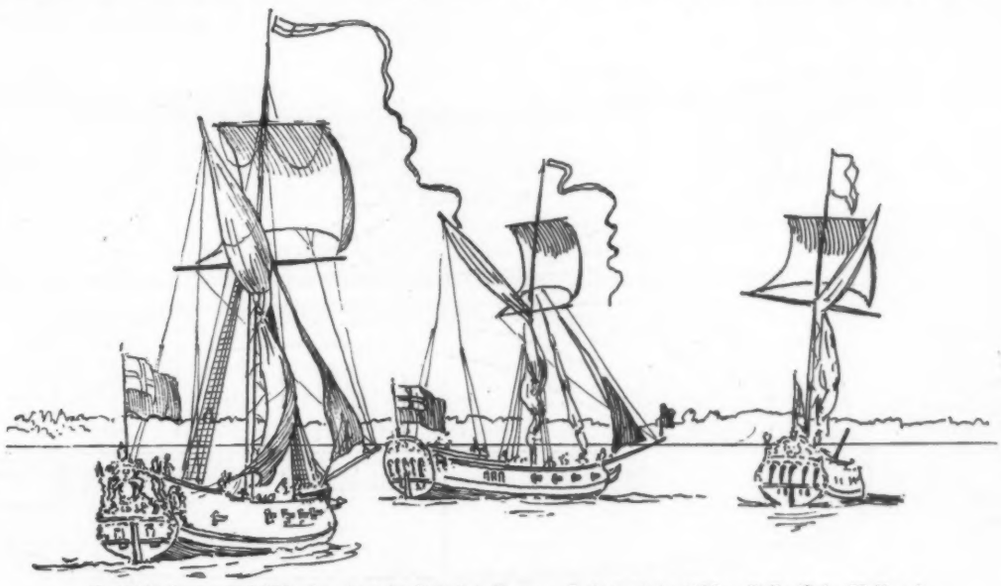
A Dutch sloop of 1790

THE issue of YACHTING for September, 1932, carried an article on the Hudson River sloops, a type brought to a high state of development in this country to suit the particular requirements of the trade between New York and Albany. As the influence of both the Dutch and English sloops was apparent in the type evolved in this country, it is interesting to trace the development of the sloop from the earliest examples of the type with which we are familiar.

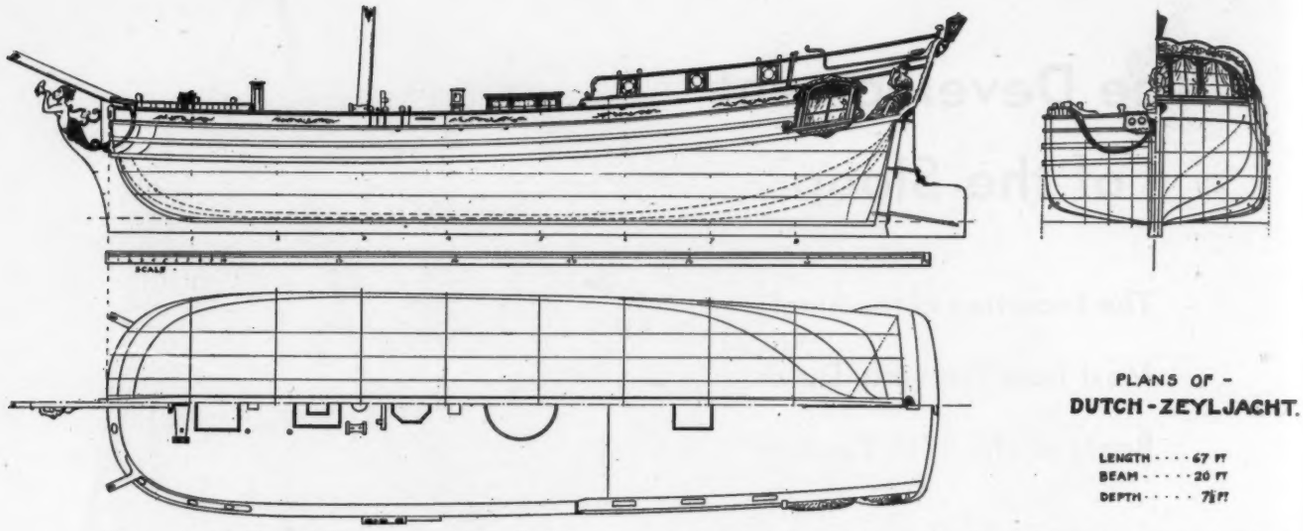
To follow the line of descent of the sloops used on the Hudson River one must look back to the countries from which the settlers of New Amsterdam came.

Away back in the 1660's, when the Dutch West India Company had a fleet of ships and sloops with which to carry on their trade in furs, there was a boat landing and small pier built out at the tip of the lower end of Manhattan Island, close to the imposing house erected for the town residence of Governor Peter Stuyvesant. On account of its color, this house became known as the white-hall, and it was from this that Whitehall Street took its name. At this pier, and in the slack water beside it, moored the sloops that came down the Hudson River from Fort Orange, now Albany, which was as far up-river as the sloops could navigate. The ships and larger sloops anchored out in the stream now called the East River.

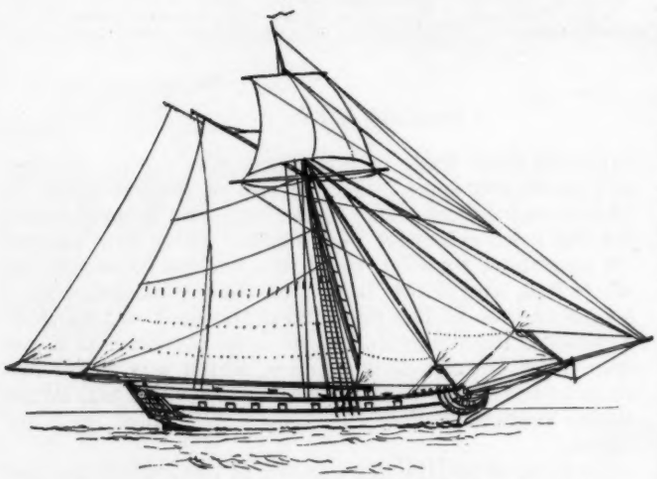
In those days Holland was one of the leading nations of Europe in maritime affairs. She had perfected a one-masted vessel and in 1660 presented the 100-ton yacht (as these boats were termed) *Mary* to King Charles II



English sloops of 1677, showing the Dutch influence. Left to right, "Mary" (built in Holland and presented to Charles II), "Charles," and "Anne"



Lines of Dutch sloop of the late seventeenth century

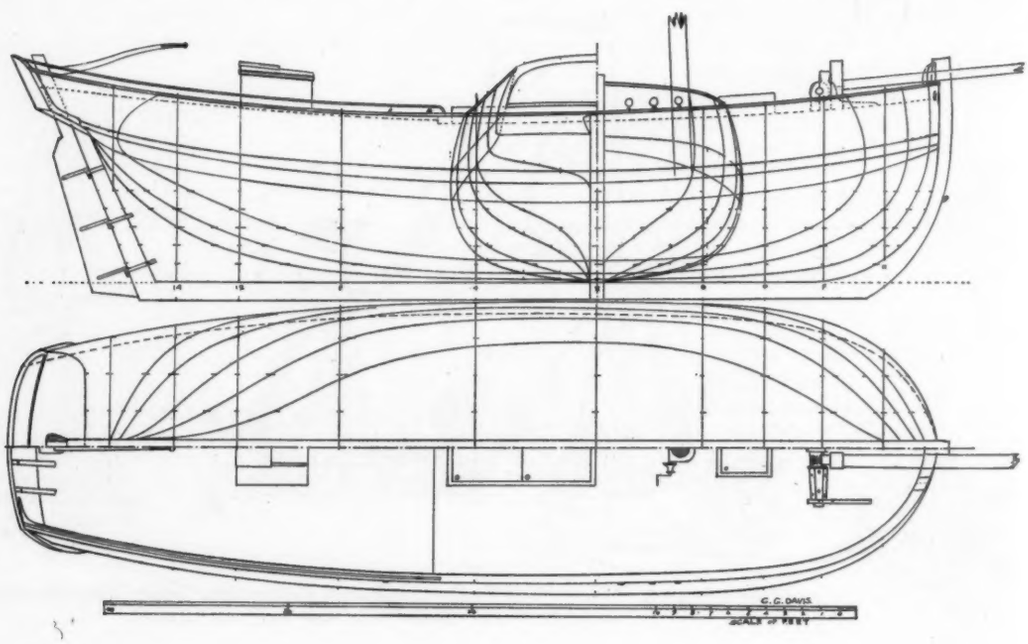


Sloop "Union," 89 tons, the first vessel of this rig to sail around the world, 1794 to 1796

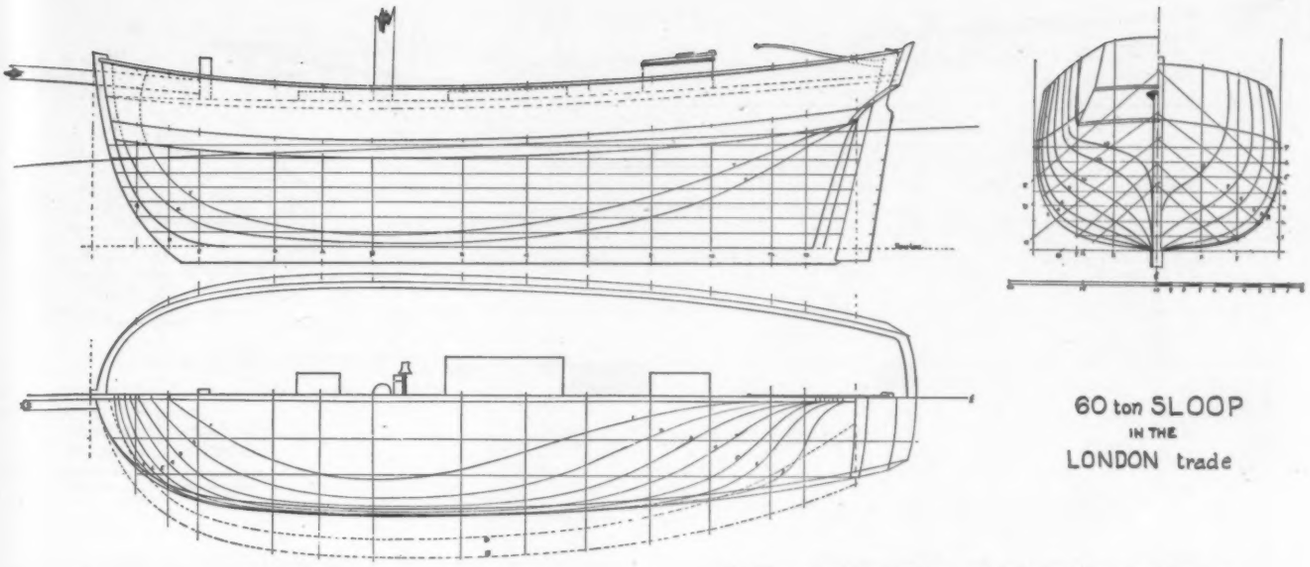
of England. This was the first sloop that country had seen; she was 52 feet long on the keel, 19 feet beam, 7 feet 7 inches depth of hold, and drew 10 feet of water. In hull model she was similar to the ships of that date. The accompanying picture of this sloop shows very clearly what she looked like. This is a copy of an old painting which shows, also, the sloops *Charles* and *Anne* when in 1677 they sailed out to welcome the Prince of Orange on his arrival at Sheerness.

King Charles II was so pleased with his yacht that he ordered another sloop to be built in England the following year, the *Catharine*, and the Duke of York had one of the same size constructed, the *Anne*. This started the vogue for yachts among the nobility and those of means, and in the following twelve years English shipwrights turned out no less than 28 yachts, most of them sloops, ranging from 22 to 180 tons, and from 28 feet to 74 feet long on the keel. These sloops were not built for inland waterways but for open sea use, as their deep draft and high bulwarks amply testify, as does the statement that they were modeled like the ships of that date.

History records the fact that a later representative of these craft, built at Cowes by a Mr. Jelly, made one



Lines of 50-ton sloop of 1765, drawn from table of offsets from Mungo Murray's "Naval Architecture." She was 50 feet long by 16 feet beam

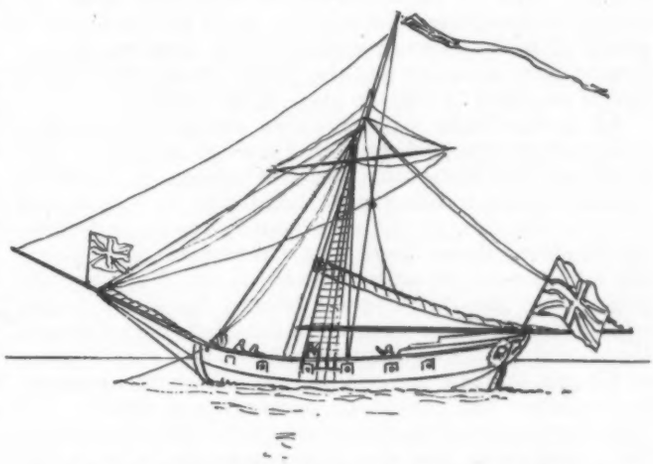


A 60-ton seagoing sloop, an intermediate step between the old Dutch and the modern sloop form

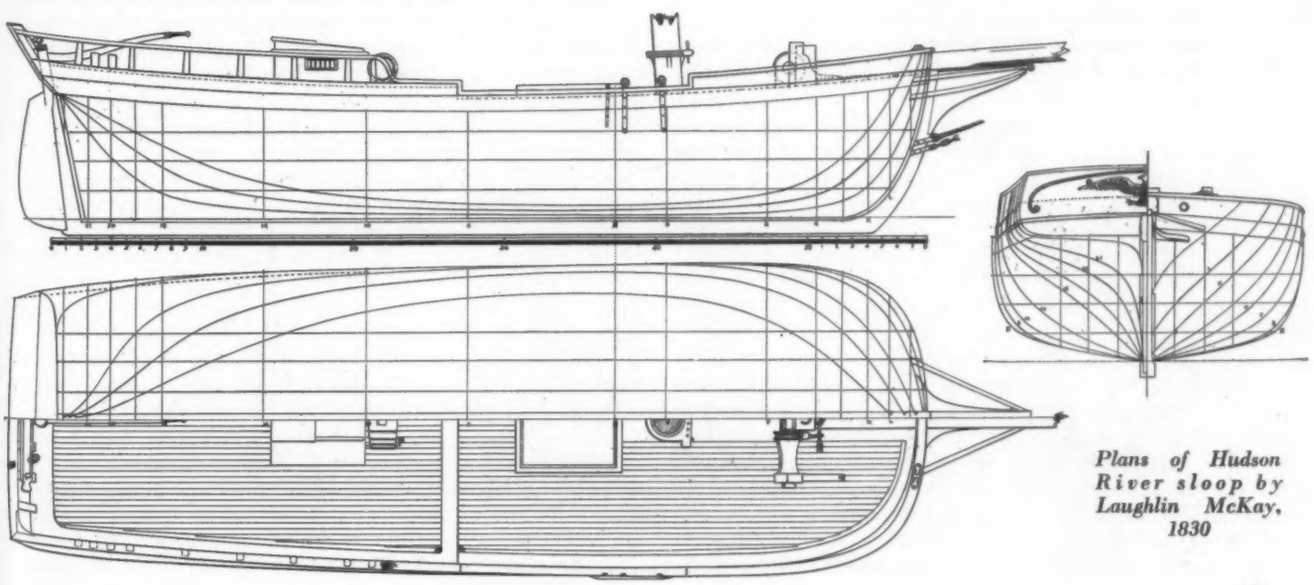
trip to sea during which she had an engagement with a French privateer brig which she beat off, but which she could not pursue as the sloop's gaff had been broken. After this voyage she was rerigged as a ship.

Is it not reasonable to suppose that the Dutch on Manhattan Island would build a sloop of Dutch type when they wanted a vessel small enough to go clear up the Hudson to Fort Orange? And if the water in the upper reaches of the river was too shallow to float a deep draft sloop it is natural that they should resort to the shoaler sloop fitted with leeboards, just as they were found in the mother country.

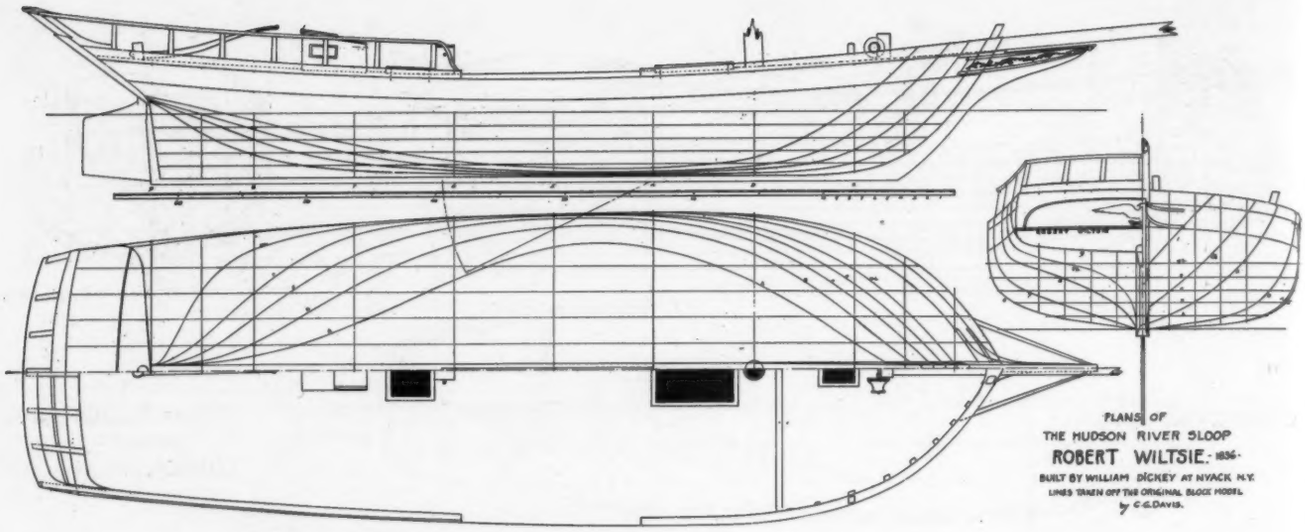
Evidently, such was the case, for as late as 1810, when there were 206 sloops sailing on the river, there were a number of sloops fitted with leeboards along with the keel boats. For centerboards did not come into use here until 1811, when a patent for a successful centerboard was granted to three brothers, Jaycocks, Henry, and Joshua Swain, of Cape May, N. J. The first centerboard vessel of any size was not built until 1815, when Henry Gesnor, at Nyack, turned out the sloop *Advance* with a centerboard box and centerboard extending through the keel. She proved successful in spite of many early predictions of failure.



A New England sloop of 1729, from a drawing by William Burgis. A square yard was then nearly always carried on ocean-going sloops



Plans of Hudson River sloop by Laughlin McKay, 1830


PLANS OF
THE HUDSON RIVER SLOOP
ROBERT WILTSIE. 1836.
BUILT BY WILLIAM DICKEY AT NYACK N.Y.
LINES TAKEN OFF THE ORIGINAL BLOCK MODEL
by C.G.DAVIS.

When New Amsterdam was captured by the British in 1664 its name was changed to New York, and it remained an English province, except for a period of about a year. In 1672 two Dutch war ships sailed up the bay and captured the city, but upon the signing of a treaty of peace it was restored to the English. Therefore, at New York, we had the background of the Dutch sloops modified to suit the ideas of the English.

All up the Hudson River Valley we find a sprinkling of Dutch names, such as Van Tassel, Van Buren, Van Cleek and Van Houghton. Josiah Kinskern, of Valentine Dutch descent, residing in Germantown, N. Y., was one of those who used to run their own sloops up and down the Hudson, doing their own trading at New York. His was a centerboard craft named the *Napoleon*. In going over the dust-covered record books of vessel registrations and enrollments in the New York Custom House such names as these appear: Sloop *Henry Scudder* of Albany, built by James Van Schoonhaven, carpenter, for Anthony Van Santvoord, owner, dated 1802.

In the picture of the Dutch sloop of 1790 we can trace the evolution of the sloop by comparing it with the *Mary*, *Charles* and *Anne*, of 1677. While there is a similarity in hull, the addition of a boom on the foot of the mainsail, and the lowering of the stern is apparent. Much of the ornamental carving, painting and gilt work around the stern was still retained, however.

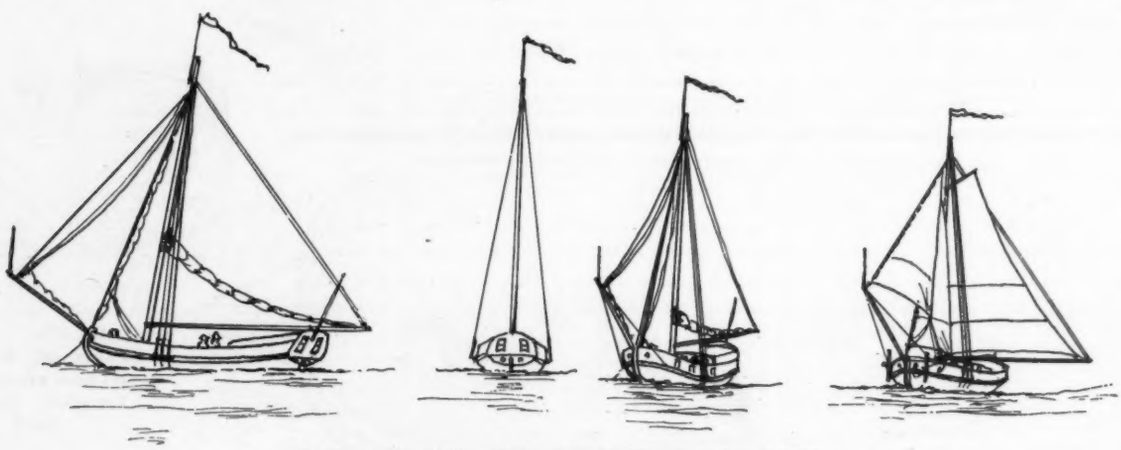
The character of the river sloops of 1717 is preserved in the Burgis print of New York at that date. All the boats show the high poop deck aft, forming a cabin in the stern. A New England sloop of a slightly later date, 1729, is shown in a sketch of the Boston Lighthouse by William Burgis. But for the yard for a square topsail, the picture shows a model very similar to the New York sloops. Nearly all the ocean-going sloops and a few of the river sloops were in those days fitted with yards to carry a square topsail.

What the shape of these sloop hulls was like we can see in the plans of the 50-ton sloop of 1765. These lines I projected from a table of offsets given in Mungo Murray's book on naval architecture, and in this and the lines of the 60-ton sloop that was used in the London trade, as laid down from measurements in Steele's work on naval architecture, we have two intermediate steps between the ancient and modern sloop plans.

In the picture of the *Union*, an 89-ton sloop of 1794, we see how the sloop has developed since the 1729 sloop of William Burgis's sketching. The *Union* was a larger craft, but even so she was a small vessel in which to circumnavigate the globe, which she did in 1794 to 1796, under the command of John Boit, Jr., who made a sketch of the sloop in her log book. That she was a typical sloop of her day is proven if we compare her rig with that of the vessel forming the initial letter of this article, which is the work of a French artist of that day.

To come now to more modern sloops, of which little enough is now known, we have the lines of a Hudson

(Continued on page 106)



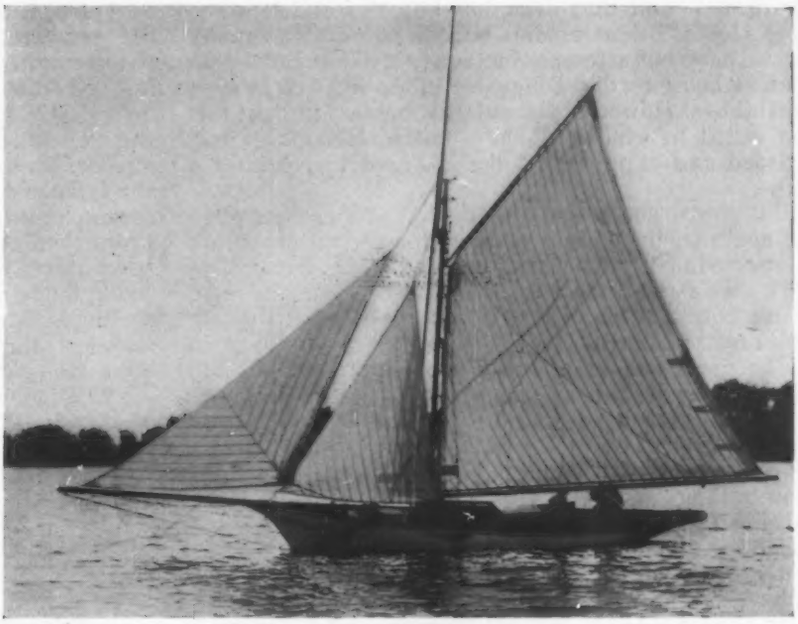
Early sloops of New York, from the Burgis print of 1717

"Hilltop Hattie"

A Leaning Lady of the Old School Goes It Alone

By

CARROL KLOTZBACH



"Hattie" in a strangely upright position

MOSTLY, we call her "Hilltop Hattie," though occasionally this is varied to "Heeling Hattie" for reasons more obvious than those of the name first mentioned. She is "Hilltop" because she was builded upon one, launched, then returned again and lost for many years, then found . . . but I go ahead too fast.

A long time ago, in 1895, to name the year, a gentleman known as Cap'n Bailey built a cutter and named her *Hattie*. The place of her building was on top of a hill overlooking the Potomac — just across from old Georgetown, which, in case you are not aware, is part of Washington, D. C. — that part lying along the Potomac adjoining the State of Virginia. When we say "hilltop" we mean "hilltop," the hill being one of some height and the road (in those days) steep and tortuous. Cap'n Bailey's home was located there and right in the middle of the Bailey cornfield *Hattie* came into being.

Designed by the Cap'n himself, *Hattie* is of a type popular at that time, — narrow and cranky, with a midsection of the regular "wineglass" shape — 34 feet long, 6 feet 6 inches in beam and with a draft of about 5½ feet. An unusual (?) feature of her structure was the hollow iron keel into which the frames were bolted, her lower garboard seam being against the iron, and the cavity within the keel being filled with lead pigs. She also had an extra step and mast partners forward and aft, the idea being that when a long cruise was contemplated the rig might be changed to that of a yawl, two suits of sails and extra spars being provided.

During 1895 *Hattie* was launched after being laboriously transported down the muddy and slippery road on a truck drawn by two teams, so we are told — one team to draw, the other to hold back. There is a rumor of her being launched upside down, due to a difficulty encountered in passing through a doorway leading onto the dock from whence she took the water, but this is legend and unreliable.

From this time on to 1908 we have no record of *Hattie's* doings, but in that year she was returned to the hilltop, the reason therefor being that her owner desired to install an auxiliary engine and wanted to have the job close at hand. So up the hill went *Hattie* (we have neglected to mention that the trip took her across a bridge also), a distance, in all, of about three nerve-racking miles. Shortly after she was again installed in the cornfield Cap'n Bailey died, and there sat *Hattie*.

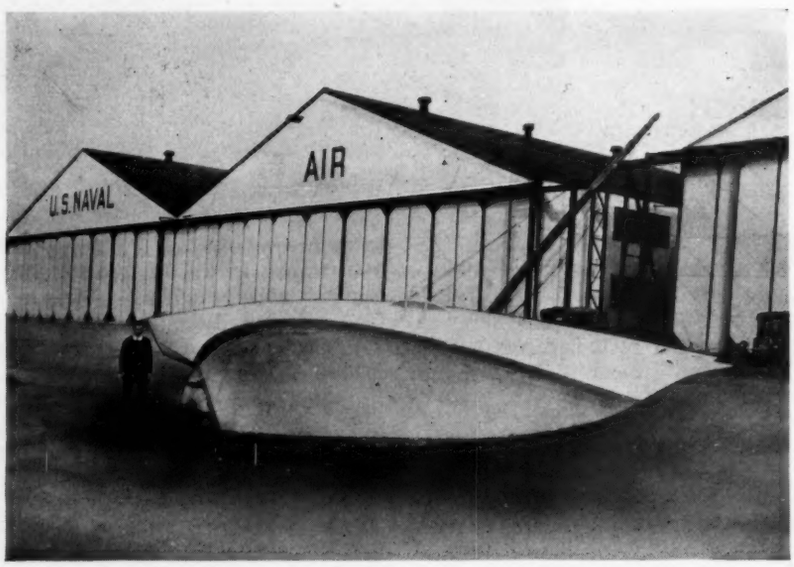
Sat and sat and sat. One, two, three, four, eight, fifteen, eighteen . . . *twenty-three* years she sat and brooded on the hilltop. Field mice nested beneath her, mud wasps occupied the forepeak and lazarette, birds reared their families in her cockpit. Then, in 1930, came young Carl Ackerman, student at Maryland "U" by day and boat student by night, whose hankerings for a ship of his own led him to her. A deal was consummated with the captain's widow and things again began to stir for the old boat. A remarkably small amount of planking was replaced, only one frame, the needed rudder repairs made, and *Hattie* again was headed down the hill, this time in tow of a roaring five-ton truck, and the journey was made in jig time. Overboard she went, and astounded the waterfront by pumping out dry after only a week overboard.

A new mast was made and stepped, the old one having "gone to pot" through the years. Then again came cause for astonishment. Her sails, after 23 years in the bags, came forth without so much as stain or mothhole; no sign of dry rot or mildew, and when bent on they looked as though they might have been made the week before. The makers of these sails may be interested to know that the two suits — each by a different firm — were both in excellent condition as far as preservation was concerned.

Now began an era in the Washington Channel when strong men shuddered and women fainted and the secondary nickname came into more or less general usage. For a time *Hattie* could not leave her moorings without giving those yachtsmen who happened to be about the jitters, and driving them to a hasty starting of engines for a rescue. *Hattie heeled!* Heavens, how she heeled! Maybe her heel isn't so bad for those whose memories and experiences date back and back, but to the current and rising generation it is a revelation. During that summer an ancient legend was exhumed, a tale of how, in her palmy days, *Hattie* once sailed her 40-foot stick under the railroad bridge without whistling for

the draw — and that draw has but 18 feet headroom when closed. Bridge tenders being a notoriously cranky lot, we have not attempted to verify the tale, but I pass it on as being readily believable in the light of *Hattie's* capabilities. However, the old girl was fast in light airs and sailed to windward like a witch. Her owner was satisfied and happy and folks got used to her after a while.

But now to get to that episode in *Hattie's* career when she again tried to climb a hill and came within an ace of succeeding — alone and unaided. The autumn of 1931 was a mild one, and the winter not much more than a continuation of the pleasant weather of the fall. The Frostbite Yacht Club has received much attention in the press and in nautical publications — men and women in fascinators and rubber boots out sailing about in dinks and whatnot. But Carl and his "buddies" tied the dink to the mooring and did their sailing in an old ship that simply delights in filling her scuppers with ice water. New Year's Day they made a holiday cruise, and every week-end following, barring those of wet no'th-easters, saw them leaning on and off the Point. So on and on to the big event in *Hattie's* career.



Saturday, March 5th, of last year, was one of those days when there are stirrings and knockings heard around boat yards; winter covers come off and prospecting around seams and engines begins. Warmish, even to the point of permitting the hardier to doff sweater and shirt when on the sunny side. As usual, Carl took *Hattie* for a heel. Returned, the sails were taken off and *Hattie* moored out in the anchorage, alone — most of the other craft having sought shelter in slip and yard for the winter. The sun went down in a typical Indian Summer sunset (which should have warned us) and the waterfront slumbered.

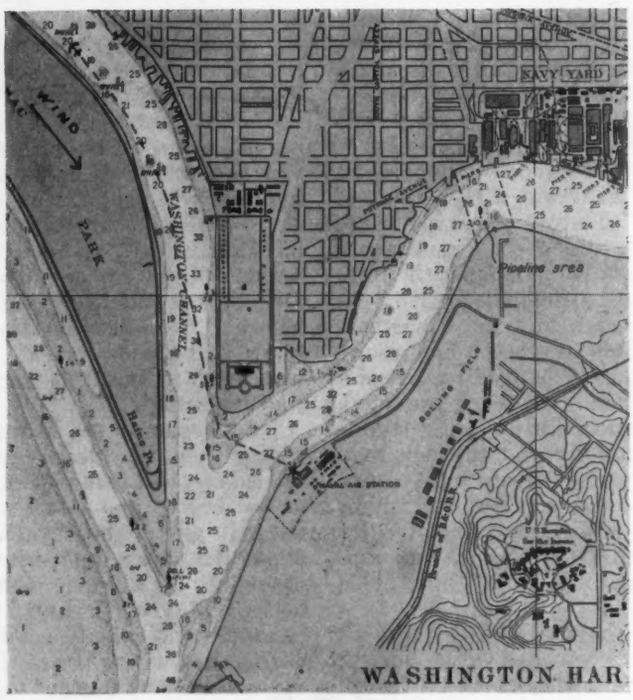
Now, the narrator, being one of those living aboard the year 'round, is in a good position to cover the subsequent happenings. At 8:30 of the following morning I arose, poked at the Shipmate (stove in this case), stretched, and wobbled aft to replenish the coal scuttle. The sky looked drizzly to the eastward and upon coming below I glanced at the barometer in passing — and failed to pass. The hand had skidded from its setting of 29.96 at 10:00 P.M. the night before to 28.92, and as I stared unbelievingly the needle wobbled and dropped nearly a tenth! Shortly after came a patter on the roof, followed by a moaning and rising wind that can best be likened to that singing breeze which accompanies Sherlock Holmes on his radio broadcasts. From then on the history is of one of — no, quite the *worst* storm in the annals of the Weather Bureau. By 10:30, the barometer dropped to 28.78, and the wind was coming in short, savage jolts, accompanied by rain, snow and sleet, the velocity being then probably 50 miles per hour. Here is an extract from the log:

"The following is the barometric record of the storm of March 6–7. Wind velocities were estimated at 65–70 (Weather Bureau) miles per hour, the anemometer at Hoover Field Airport showing 80 during the height of the storm. Seven boats were blown ashore including the Department of Commerce cruiser used in migratory bird protection work. Six craft were sunk and considerable damage done those lying in comparatively sheltered places.

"The wind came first from E.N.E., reaching its greatest intensity about 10:30 A.M. It then shifted to N.E. about 2:00 P.M., veering to N.W. within the hour following, blowing at this time about 55 m.p.h. with puffs of severe intensity. Decks covered with ice; almost impossible to make way forr'd to examine mooring. At 6:40 P.M. wind increased and by 8:15 P.M. seemed to reach its greatest velocity, then about 65 m.p.h. Up all night standing by, two additional anchors in readiness and engine running at sufficient intervals to keep warm. At 4:00 A.M. (7th) came hardest blasts, the wind forcing ship down by stern, undoubtedly 80 m.p.h. or better. Blowing all day, diminishing slightly, then half the following night, easing off about midnight."

Here are also readings from the irregular barometer record kept, though the

(Continued on page 104)



"We found her two days later, unscratched and twenty feet from the water." The map shows "Hattie's" lone journey

A fine example of the Tancook whaler, a type used for fishing which is now unfortunately almost extinct

The Passing of the Tancook Whaler

A Type Once Popular in the Nova Scotia Shore Fishery

By ERNEST A. BELL

THE Nova Scotia shore fisherman would be the last man I should accuse of being over sentimental, particularly about his boat; but he might well pause for a moment's affectionate contemplation of his "whaler," as she lies on the shore. The whalers, or, as they were better known, the Tancook whalers, are now almost extinct, but theirs was a record of glorious service under strenuous conditions for well over two-score years.

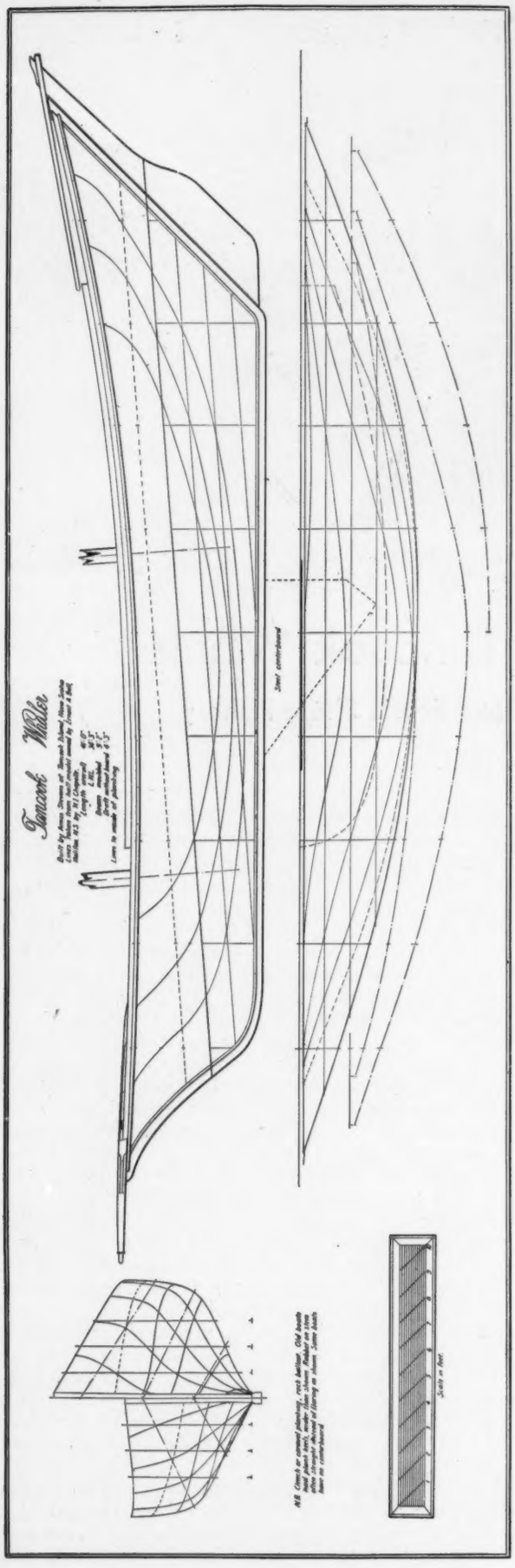
I shall not easily forget my first sight of a whaler upon her lawful occasions. I was, of course, familiar with these boats, as was every visitor to the Halifax waterfront, where almost every day one could see them dock, with an utter disregard for tide, wind and sea, and with the same careless ease that your college boy displays in parking his roadster at the curb.

But my first sight of one "doing her stuff," if you will forgive the phrase, was upon one September day, some twenty years ago, when I was proceeding towards Halifax from the westward in a little coasting steamer. It was blowing half a gale from the south of east, and "t'ick-a-fog," and the skipper had shut her down to see if he could not catch a sight or sound of Pennant Whistler. Through the fog, to starboard, came the sound of a mouth horn, or conch shell. A greasy and perspiring individual, leaning out of the half-door of the engine room, "opined" that the sound emanated from a fishing boat.

Shortly, through the fog, appeared brown sails (their sails were nearly always tanned) and a white hull, between 40 and 50 feet long. The boat seemed to approach slowly, to hesitate a moment, and then to leap past in the manner of boats passing at sea — a phenomenon of which Conrad remarks in "Chance." But there was time to observe two or three men in yellow oilskins, the helmsman standing with the end of the great ten-foot tiller behind his back, lifted slightly from the comb, and the load of barrels and boxes partly covered by a tarpaulin or, more likely, by the brown staysail (it was not set) in her waist. The man with the shell waved his hand to my friend, who acknowledged the salute graciously. They were then close aboard. The tiller was swung a trifle to weather; the loose-footed overlapping foresail filled with an audible snap, and away she went, at eight or nine knots, her lee rail occasionally awash, and with a smoothness and lack of fuss in that broken water which, somehow, no other boat has ever seemed to me quite able to attain — and I have known some good ones! I can well remember that she took back with her the heart of a schoolward-bound boy to the holiday land which he was reluctantly leaving. My friend of the lubrication and perspiration remarked, ere he disappeared below, possibly in answer to a jangle of bells, "The three Baker boys! Damn good boats, them Tancook whalers!" A present day boy would probably have answered "You said a mouthful!"

In the fulness of time it was my good fortune to sail in one of these boats, and a beautiful boat she was, — and is. I saw her still in use only summer before last, going strong after nearly twenty years. I made up my mind then to assist in any way I could in preserving the lines and the memory of the Tancook whaler for future generations.

Starting with the name, there seems to be hardly a doubt that the whaler was a natural evolution of the whaleboat used by all whaling vessels. These boats need no introduction to anyone familiar with small craft.



Their original lines have been, I believe, traced directly, or at least attributed by many good authorities, to the boats of the Vikings which probably visited the shores of Nova Scotia and Labrador before Columbus discovered America.

However this may be, my father remembers and was very familiar, 60 years ago, with a double-ended boat called the "Labrador whaler." It was a ketch rig, usually under 30 feet long, and entirely open, save for a two- or three-foot deck at each end. The mainsail was of the spritsail type, and the boat always had oars and thole pins, and, at a somewhat later date, an iron centerboard. Occasionally one of these boats may be seen in our Nova Scotia harbors today. The boat builders, particularly in Tancook (a large island in Mahone Bay, some 40 or 50 miles southwest of Halifax), soon began to develop this excellent model, and eventually evolved a boat which, taking conditions for their use into consideration, it would be difficult for any naval architect to improve upon. Every maritime country has developed a craft especially suited to its particular needs, and the Tancook whaler seems to have been the answer to the small boat requirements of the Nova Scotia shore fisherman before the introduction of the gasoline engine.

With the prevailing westerly breeze, or with an occasional hard blow from the east or southeast, it was essential that these boats should be able to scurry home before a rising gale, or, under moderate conditions, to reach home in good time with their catch of fish. To anyone familiar with the exposed coast of Nova Scotia, with its outlying dangers and broken water, I need hardly say that the whaler had to be the finest kind of sea boat — and she certainly was!

Starting with a boat of about 30 feet on top, the final development reached 45 and even 50 feet. The cost, about twenty years ago, was startlingly small, even "for the cheap 'uns," as Kipling would say. I am informed by credible authorities that a 46-foot whaler, with sail and two dories, complete, and ready for fishing, was built for $450, and that was considered a fair price in those days.

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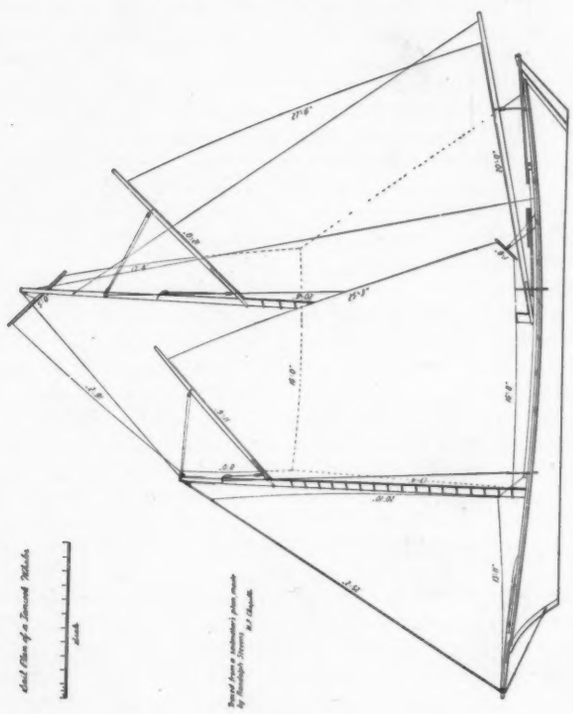


The Use of the Drogue

By FREDERIC A. FENGER

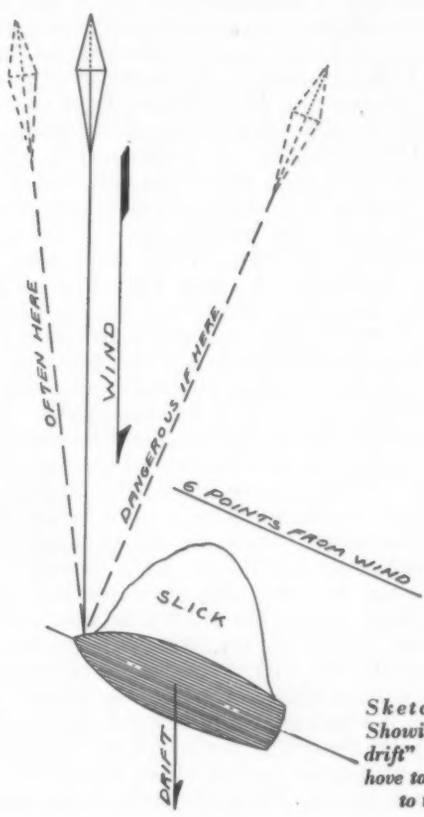
HEN a small sailing vessel — an ocean cruiser of from thirty to fifty feet in waterline length — encounters a rising gale, sail first is reduced largely as a commonsense measure to conserve her canvas and rigging, and in order that she may labor less and handle easier. As the breeze takes on, a further shortening must be made, not so much because she cannot lug it — being conservatively hatted for offshore work — but because of the increasing punishment her hull is receiving from the mounting, cresting seas. In due course, then, a time comes, when for the safety of the vessel and her gear, not to mention the comfort of her company, all forward progress must be halted. In other words, she must be hove to.

It is now highly important to establish what is known as "square drift," that is, a fair balance between the tractive effort of the riding sail and the effective center of the submerged plane, so that when laying at the usual angle of about six points from the wind, only enough forward drive is given to overcome sternway. The closer a vessel lays, the greater will be her tendency toward sternway, and this sternway, especially in the case of the schooner whose mainmast windage largely helps to bring her to, often can be converted partly into square drift by easing her helm, thus slewing her stern somewhat to leeward. In an extreme case, when it is vital not only to bring the vessel closer to the wind but also to overcome excessive sternway, a slowly revolving propeller, reversing the stream against the rudder which is now given a slight weather helm — or altered according to need — will accomplish this two-fold purpose. But the motor must be throttled down to a nicety.

Conversely, head reaching, to which the high-masted ketch, cutter and yawl are prone in increasing ratios, can be somewhat, if not entirely, overcome by throwing the helm *down*. Ordinarily there is so little stream in either direction that the action of the rudder is practically *nil*, and the helm had best be becketed in that position which endures the least amount of play, or partly down if the vessel is inclined to sheer. Each type of hull and rig, however, demands its own particular treatment, and the final solution can only be found under actual deep-water conditions of heavy winds and large, breaking seas. A yacht that will lay to very handily in a stiff land breeze under a weather shore, may become a veritable beast in open water. The all-important requisite for any *bona fide* cruiser is that she have some sort of fore-gripe, from more than a mere semblance of forefoot in a shoal draft schooner to a very perceptible deepening of the stempiece in the centerboard ketch or yawl.

The vessel being hove to, we may now consider the drogue. Ordinarily, the drogue is regarded only as a means of holding the vessel's head as near the wind as possible and, in some cases, when she does not fetch up from the troughs of her own accord, this remains its chief function. Here I would venture my own doubt that it is necessarily best for a vessel to lay at an angle with the seas. And while it is true that a beneficial slick is established — the greater the drift the longer the slick — and that a "high side" is presented to weather, by this latter token if the vessel can be brought directly head-to-sea, the advantage of the high side will be more than equaled by the lifting power of both bows. Even Voss, referring to a small vessel, in one instance says, "Your boat should lie straight head to sea, or nearly so." To be sure, there will be a slightly steeper pitch, and the slick will be turned into what should be a harmless wake, but the hull windage will be far less and she will be drier and stand on an even keel, thus affording more comfort to her crew during what is properly a rest period after a strenuous bout of sail handling and broken watches below. The drift, no doubt, will be greater, and while this may be desirable if the course, to be made good, is down wind and there is ample sea room, it can safely be reduced to less than the usual rate and with less surging, by means of the drogue which now will be operating from its ideal position — directly ahead of the vessel. A double warp can be used, the parts rove through either hawse-pipe, to insure against sheering, while its length can be somewhat shorter than when used singly from the weather bow. Stout heel ropes with tackles should be run over the quarters from the rudder hance to secure it amidships, and the helm left free.

So far as I am aware, however, no ordinary vessel has been hove to head-to-sea, though the trick *may* be turned with a double riding sail presenting two surfaces to the wind — sheeted to the port and starboard quarters — and run up on the mizzenmast of a ketch having a deep forefoot. And if it is true, as has been averred by some shellbacks, that certain vessels have laid as near as two points from the wind, these were admittedly of the old type having full bows, flat sheers, straight keels and powerful fore-gripes, while the



Sketch No. I. Showing "square drift" with vessel hove to at 6 points to the wind

windage in their spars and rigging was centered somewhat farther aft than in the later forms.

But the drogue has a more important duty to perform, and that is to check the drift to a reasonable amount so that the vessel will not be blown too far from her course.

The conventional drogue is made of heavy canvas, its shape being conical or pyramidal according to whether the mouth is held open by means of a round iron ring permanently attached, or a pair of tapered wooden cross bars, bolted at their intersections, which can be removed for stowing. Instead of the round iron ring placed *ahead* of the roping, a flat iron hoop can be made to fit snugly just inside the mouth. (See Sketch No. II.) But in either case, the lap should be wide enough to include the grommets within the seams, else the single material will give way at the lashings.

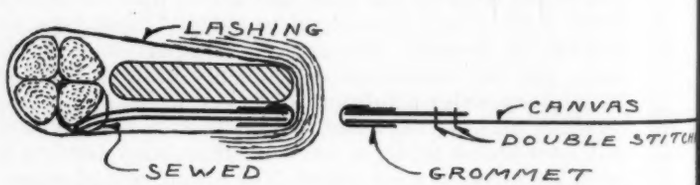
According to Voss, the proper drogue diameter for a deep keel vessel of 20 feet waterline should be 20 inches and the length 30 inches, the estimate being based on mouth area, as with standard politicians. For each additional foot of waterline, the diameter is increased by one inch and the length one and one-half inches. It is interesting to note that for a boat of 30 feet waterline he used a 28-inch square drogue — showing an increase of about 10 per cent in area over that of the 30-inch conical form, which I have found to be a fair measure of the relative efficiency between the round and square mouthed drogues.

Now it would seem that according to this formula, the tonnage of a vessel increases faster than the size of the drogue. From my own scant experience, having been hove to under canvas drogues on but four occasions, though in rather divergent types of hull and rig, together with certain experimental data gathered during the past summer, the indication is that, as the diameter is increased — within certain limits — there is also an increase in drag effect per unit of area, thus checking closely with Voss's estimates for the larger sizes. On the other hand, the smaller drogues being somewhat less effective, I have come to the conclusion that it would be well to increase the diameter for a 20-foot boat to 22 inches and for a 25-foot boat to 26 inches, till we meet 30 inches for 30 feet of waterline. Upward from 30 feet waterline, I believe that the equivalent inch-per-foot rule should be adhered to rigidly, for if the drogue is oversize, there is danger in overchecking the drift and in bringing too great a strain upon the drogue itself. The drogue used when we were hove to in *Diablesse* off Cape Fear was 48 inches in diameter and lasted about fifteen minutes. Had it been 40 inches, it would have endured longer and served its purpose just as well. Fortunately, our position was such that there was no lee short of the Faroes, while the old schooner managed very comfortably on her own. Approaching 50 feet waterline, the diameter should be somewhat undersize, and because of the limit in weight of material ordinarily procurable, the largest practical canvas drogue would be 48 inches. To insure additional strength, this large drogue should be made up of six gores instead of the usual four, while in *any* drogue the clothes should be carefully hand-stitched and have ample lap, from two inches to three inches, so that when the bolt rope is laid on, the twine will go through both thicknesses and well within the seams. Bursting is often due to the canvas splitting *outside* the seams.

As the bolt ropes continue beyond the mouth of the drogue to form the bridle, it may be well to add that the longer the bridle the better, three times the diameter being a good length. Thus the pull of each component part is more direct, reducing the tendency to buckle the ring, or causing less chafe where it passes through the forks of the cross bars, while the bridle itself is not so liable to failure. There is a further argument in favor of the long bridle, for if the drogue snubs the vessel too severely, it can be tripped and brought aboard and the ring or cross bars removed so that it can be put overboard again, loose-mouthed. The long bridle will then allow the drogue still to function, but with a reduced efficiency. Were the bridle short, the puckering effect would be great enough to endanger the bag, due to the increased weaving of the mouth. In the smaller drogues, the loss in drag is not so apparent when used with the mouth free, and so, for stowing purposes, the ring or cross bars can be omitted in case the mouth is enlarged by two inches over the figures originally given. But this applies only to drogues under 30 inches in diameter.

Efficiency in a drogue, of whatever form, depends upon its eddy-making ability, and as it is the periphery that does most of the work — creating a swirl around it from the mass of dead water flowing over from its maw or, more effectively, from the slow-moving stream in case the tail is left slightly open — the sharper the fall-away behind the mouth, within certain limits, the greater will be the drag. Thus, in the canvas form, a short drogue is indicated — up to a point where the cone fails to displace completely the direct return current from the incurving eddies. As the bag is shortened, however, the strain on the canvas is augmented to a dangerous extent without a commensurate increase in efficiency, while the drogue becomes harder to trip, so much so that were the length reduced till the sides are equal to the diameter, this maneuver might become impossible with a line, even of reasonable size, rending hard against the distended mouth.

Voss recommends a length equal to half again the diameter. It is better to extend this length to *twice* the diameter, thus still further lessening the strain on the material and allowing for easier tripping — one should be able to fold the tail well over the mouth, thus spilling the dead water from the opposite side as the ring is capsized or the mouth pursed, as the case may be — the loss in efficiency over the one and one-half length drogue being negligible. As canvas drogues have a way of not quite finishing to their designed lengths under the hands of the sailmaker and also because a



Sketch No. II. Flat iron hoop lashed to grommets inside of mouth

considerable shrinkage ensues after completion, it is well to specify a length of some few inches beyond the required measurement. It is also well to have the ring or cross bars made first, so that the sailmaker will have to fit the mouth accordingly.

Voss further suggests an opening at the tail of two inches for the 20-inch drogue, to four inches for the 28-inch square, adding, "For larger boats add proportionately as before." (Very likely he was mixing up a double batch for flapjacks when he wrote this.) And although this opening flattens the "head" of the dead water so that a larger eddy can be generated over the lips of the drogue, there grows the risk of creating too great a stream within the bag, till the constant friction of the

water at a considerable pressure may cause failure at some weak point. If your sailmaker is more of a Wheeler & Wilcox chauffeur than a marine cobbler, it will be well to leave the end closed.

In rigging a drogue, it is best to lead the warp outboard through the weather hawse-pipe and *under* the bowsprit shroud; thence outside the rigging and aft to the cockpit. A couple of turns should be made over the winch drum and then the coil should be capsized so that the bitter end can be made fast to the fore- or mainmast — as the case may be — with two turns around the mast and a couple of half hitches on the standing part — a fisherman's bend here being apt to jam tighter than last year's credit. Chafing gear should now be laid on that part of the warp which will lie in way of the hawse-pipe, a good three feet of it, allowing for one turn to remain over the drum. It will be well to secure the remainder of the coil on the fore deck, against being washed overboard.

In the cockpit, make fast the warp to the ring of the bridle swivel with a fisherman's bend, or over a large round thimble (sprung through the ring) with a bowline, securing the thimble so that it cannot slide out from under the warp. The warp-end should be well whipped and seized to the standing part. As the drogue will tend to come to the surface, some weight must be used to sink it. The loose-mouthed drogue needs but a small weight of from three pounds for the 20-inch size to four pounds for the 30-inch, attached at the mouth to one of the bridle parts. If an iron ring is used, its weight alone should be sufficient. With wooden cross bars, there must be enough weight to establish definite negative buoyancy, and this can be determined only through actual trial — lowering the drogue overside by the buoy line which is made fast to that bridle part which is opposite the weight.

The buoy line should be three and one-half fathoms long — to allow for drift — while the buoy itself — whether it be a cork life-jacket, a mooring can, or preferably, a length of 4 by 4, or 6 by 6 cedar, *painted white*, so that it can be seen when it bobs under — should have ample flotation to prevent the drogue from sinking too deeply. As the drogue goes down it holds better, but there is risk in establishing so much drag that not only will the gear be endangered and the vessel too severely snubbed, but there also may be enough downward pull to roll the vessel to weather.

At last, the trip line is bent on, making sure that there is plenty of scope for a bight to flow clear when the drogue is set.

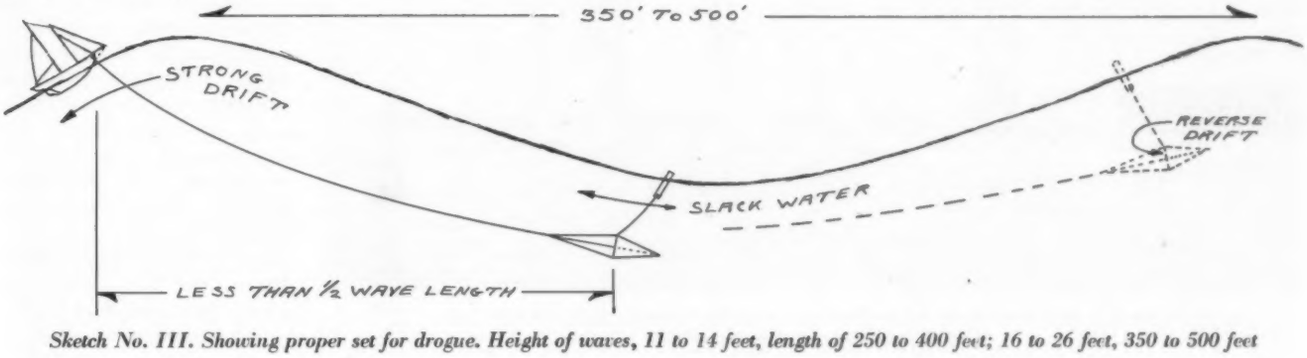
Murmuring a *cap du Raz* "Bapteme," you may now sink a couple of vessel-lengths of the trip and lower the drogue by the buoy line which is payed out clear as the warp is let go. The drogue will sink and fill, and as it hauls off to weather, the buoy is thrown after it with a proper taffrail blessing.

From short hawse, make sure that the drogue is functioning properly and that it is not too heavily weighted, before veering it beyond easy view; for it is far handier to trip and recover it while fairly close aboard, and on the same side of an advancing short sea, than after the warp is full out.

Casting off a turn from the winch, pay out the warp slowly — snubbing it from time to time in order to keep the drogue well filled — till its chafing gear is properly homed. The winch should now be undogged so that it will be free to turn. If the vessel is a small one and has no proper hawse fitting, do not use the anchor chock, as it will be ripped off, but allow the warp to ride over the rail, bringing it forward as far as possible by means of harpings over the stemhead or the bowsprit at the gammon iron, or if there is no proper stemhead, or bowsprit, use a heavy spring line passing from the warp forward around the bow of the vessel and then aft around the shrouds and to the mast. The trip, which was tended from the cockpit, is now brought forward and made fast in the weather rigging so that it will not foul the warp. Normally, the drogue should be 150 feet from the vessel.

Before turning in, the navigator should make a careful estimate of his position together with the probable drift and its direction. Voss allows from a knot to a knot and a quarter of leeway for keel vessels and nearly two knots for shoal draft. He further quotes a knot and a quarter for a small vessel when hove to under sea anchor and riding sail. These estimates, I believe, are somewhat scant, and with our present tendency toward tall spars, it is safer to bring the lower figure to two knots. In *Diablesse*, of moderate spar height and with an admirable grip upon the water, I allowed a drift of two knots, without the drogue, and subsequently made a fairly accurate landfall — without sights — although my dead reckoning error and estimate of leeway may have compensated each other so that our rate may have been greater. Later, in a shoal draft centerboard yawl, under a drogue, our drift at times was more nearly *three* knots than two. On two earlier occasions, both times in keel vessels, I made no attempt accurately to gauge our drift, merely noting that it was somewhat higher than I had anticipated. Conor O'Brien, always a careful observer, states that *Ilen* and *Jolie Brise*, both of about 50 tons, went to leeward at four knots. Presumably, they were hove to under riding sails and backed spitfire jibs, but without drogues. Under bare poles, *Saoirse* lay steadiest beam on to a blow and slid off 100 miles in 24 hours, there being no mention, naturally, of a drogue. A sensitive, low-speed taffrail log may indicate one's leeway, or one can toss an empty bottle from the lee quarter and watch it go by — making due allowance for the surface drift of the water in which it is bobbing — though it is generally safe to allow from two to four

(*Continued on page 112*)

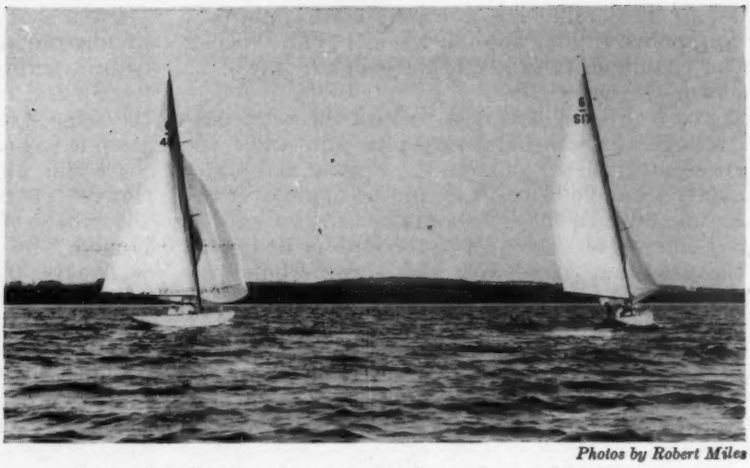


Sketch No. III. Showing proper set for drogue. Height of waves, 11 to 14 feet, length of 250 to 400 feet; 16 to 26 feet, 350 to 500 feet

The Happy Hunting Ground of "Sixes"

By

ALBERT KEEP



Photos by Robert Miles

"Comet" (left), champion of the Charlevoix fleet, and "Oslo," one of the older "Sixes"

EARLY in the summer an article appeared in the *Sportsman* which might have tended to discourage even an enthusiast in the Six-Metre Class. This article stated that Six-Metres were disappearing because they were too expensive for their size and because, when they were out-built as racing boats, they could not be used for any other purpose. It would seem, therefore, not out of court to call attention to the fact that there is at least one fleet of Six-Metres in America besides the very fine team which defeated Great Britain, and the fleet on the West Coast for which enthusiasm has not been dampened by any of the unfavorable factors mentioned in the *Sportsman*.

This summer at Charlevoix, Michigan, the whole fleet of eleven "Sixes" took to the water in spite of the depression. The sailing was better and closer than ever, and although *Comet*, designed by Sparkman & Stephens and skippered by her owner, John P. Wilson, was winner of the championship, she was hard-pressed all season by her sister ship *Meteor*, and by *Noreg*, skippered by O. W. Johnson, and Bradford Whiting, respectively. Fourth and fifth places were hotly contested by *Dauphin*, *Sprig*, *Firefly*, and *Betty*, all with former reputations to uphold.

The important fact, however, is not what boats were the winners but that the interest was so keen that several newcomers have decided to join in the racing, and at least one new "Six" is assured for next season. Besides this, a committee of the Charlevoix Yacht Club has been appointed to select a team of four which will represent the club at the Chicago World's Fair next June. The boats will be taken to Chicago, where it is hoped they will meet a team from the West, a team from the East and at least one foreign team.

The cost involved in maintaining the "Sixes" was mentioned as a factor contributing to the decline of their popularity. Smaller boats may be cheaper to keep up and larger boats may have a higher second-hand value as cruisers, but, as many Charlevoix skippers have discovered, "Sixes" are powerful enough to make sporty sailing in all weather and yet small enough so that they may be kept up by the owner without a paid hand. Any larger craft would inevitably require a professional. As to the expense of new sails, it might be said that, with a given hull, the trim, and particularly the handling, has seemed to make more difference than sails. An old sail, recut and properly cared for, might be ten seconds slower than a new one on a 12-mile course, but probably not more. This year, at Charlevoix, *Noreg*, with old sails and rigging, was a constant threat in any weather and a victor in a breeze over newer boats equally well sailed. Likewise, *Dauphin*, in delicate winds, was a match for the fastest of the newer boats in spite of her five-year-old canvas.

Away to a good start in one of the races for the championship. Here old and new "Sixes" make up a well balanced fleet

It would be nonsense to try to prove that old boats and sails are as good as new; but it is only sensible to note that keen competition, and consequently interest, can be stimulated by keeping old equipment in condition. If the Six-Metre enthusiasts at Charlevoix had felt that they had to build new boats and buy new sails every year, interest would

(*Continued on page 104*)

Gaff *vs.* Bermuda Rigs

The Question as it Looks to an Offshore Sailor

By E. G. MARTIN

IN THE history of yachting, within the last fifty years or so, there have been three developments of outstanding importance. The first was the introduction of outside ballast; the second, the wholesale cutting away of deadwood; and the third and latest, the coming of the Bermuda rig. As always when any revolutionary change takes place, a storm of argument followed, and no subject has been more discussed. Many have been in doubt about the real value of the Bermuda sail and of the special rig which it entails, especially for offshore cruising, and this is not to be wondered at, for the elimination of the gaff has enabled designers to make a fresh start and evolve a new rig bearing no resemblance to anything which existed before.

It must now, I suppose, be something over twenty years since the Bermuda rig first appeared in the small racing classes in British waters, and I think it may be said that for the next fifteen years cruising men in general regarded it as a costly and fragile piece of mechanism — wonderfully efficient as long as it remained intact, but unreliable even in smooth water sailing. Taking into account the number of breakdowns in ordinary class racing, no other conclusion was possible. Next came a period of doubt, lasting for perhaps five years. The new rig had certainly made good in racing, but it is a far cry from coastwise daylight sailing, in moderate winds and fairly smooth water, to real ocean passages, with all the chances of wind and sea, and the isolation which is the most serious feature of deep-sea sailing. Doubt remained, but meanwhile the new rig was spreading among cruising yachts and was beginning to show that it possessed many advantages when fitted in quite small boats, or in "50-50" yachts, and those in which the total sail area was small for the size of the ship. As a practical question, I asked myself, some few years ago, whether I should have felt happy in going to sea in *Jolie Brise* with the fifteen feet or so of additional mast which would have been necessary to set an equivalent sail area to that of her gaff rig. The answer was "no."

Not long afterwards came a cruise in Dr. Ward's *Tiercel*, then a new Bermuda cutter, having a 50-foot waterline and about 1750 square feet of working sail. This experience was something of a revelation. *Tiercel's* loose-footed Bermuda mainsail was out and away the easiest sail to handle that I had ever been to sea with. But *Tiercel* was undercanvased; her mast was only sixty feet, deck to truck, and I felt that this was not really a fair case. I should still have been in doubt had it not been for last year's Transatlantic and Fastnet races, and my good fortune in being asked to sail Mr. H. E. West's new Nicholson Bermuda cutter *Patience*. *Patience* was quite a new experience; in about two months she upset theories which I had been accumulating for thirty years and almost set my mind at rest concerning the new rig.

When a man has been schooled in vessels of a certain type, his whole outlook is influenced by the experience he has gained in them. So it is, I think, that the yachtsmen who, as boys, learn their sailing from fishermen in smacks, or from pilots, or indeed from any professional sailors, gain a permanent outlook which is rather different from that of others who, from the outset, have learned in pleasure craft. One may not learn more than the other, but each gains his own point of view. As a boy, I lived in Brixham, and spent a great deal of time trawling in the big sailing smacks which hail from there. Wonderful craft they are as handled by the Brixham men, and I suppose there could be no finer school for any youngster who will work hard and try to learn.

All this, perhaps, may seem to have little bearing on the question of gaff and Bermuda sails; but I think it has. The point is that anyone who has, so to speak, served his time in these working craft, naturally comes to set his standard by them in such matters as seaworthiness and efficiency of gear. That, perhaps, is why it was so many years before I could accept the Bermuda rig as a practical seagoing proposition. It had, in my mind, to be proved that it would stand up to far harder usage than it was ever likely to receive in the majority of yachts; in fact, to be reliable enough for a deep-sea fishing vessel working the Bristol Channel in the depths of winter. Men who have sailed those waters in a Fastnet race during the summer will realize the severity of such a test. Until last summer I had no proof that the new rig would stand up to such work.

In rig, as I see it, reliability may be gained by one of two methods. The fisherman, or pilot, chooses one, and the designers of such ocean-going yachts as *Dorade*, *Highland Light* and *Landfall*, the other. When one considers that this one object, reliability, is obtained by both methods, the contrast between them is extraordinary. In the fewest possible words, in the one case use is made of a very heavy structure which will withstand the most severe shocks because of its elasticity; and in the other, a rigid structure which is extremely light and is never required to bear such shocks.

Anyone who is familiar with the working of a smack in rough weather knows how the motion of the ship and the momentum of the gaff and boom put tremendous strains upon the mast and gear. No harm results, because everything is immensely strong in proportion to the work required of it, and because the whole structure is elastic. Rope halliards everywhere, rope lanyards and deadeyes for the shrouds instead of turnbuckles; hemp luff ropes to the sails, and last but not least, no bobstay. The bowsprit forms a spring buffer to which the shocks upon the mast, caused by the gaff and boom, are transmitted through the luff rope of the jib. Until one has watched a smack punching to windward and seen the rhythmic springing movement of the bowsprit as she breasts each sea, it is impossible to realize the real mechanical beauty of a rig which at first sight seems to be so crude and unwieldy. In the hands of a fisherman the smack's gear is almost indestructible. That is one end of the scale, the method which fishermen and pilots have found to serve them best.

Jolie Brise, when she first visited America, was really rigged on this principle. Rigging, sails, and spars were just as the Havre pilots have devised them; but she was not so extreme an example of the "elastic" theory as a Brixham smack, for her spars were lighter in proportion, and she had wire luff ropes to her jibs, and a bobstay. Originally her headsails had hemp ropes. I doubt whether, simply for cruising, a yacht of pilot boat type could have a better rig. In *Jolie Brise* I think the Bermuda rig would fail, and this because of her model.

In addition to heaviness and elasticity, a characteristic of the old-fashioned rig is that it is very broad in comparison with its height. In Brixham vessels, especially, the men like what they call a "shoal" rig, *i.e.*, a short mast. They will tell you that cutting perhaps a foot off a vessel's mast has "made a different ship of her." This is not difficult to understand when the weight of all the gear aloft is taken into account.

When any one has been brought up on such theories, and has seen them working splendidly at sea, it is not surprising that he should look at a modern Bermuda cutter's gear with misgiving. And so it was that when I was invited to take charge of *Patience*, and first went aboard her, I would have given a great deal to see her transformed into a homely, gaff-rigged cutter, such as I had learned to work. I was not alone in that feeling, for Mr. West's skipper, a man of great experience in the big racing cutters of former years, was also a stranger to the new rig, and seemed to have doubts about it, like myself. Had we intended only to race in the regattas around the coast, we should not have worried, but the Fastnet race was quite another matter.

Patience had only just been launched and as there was not more than six weeks before the Fastnet race in which to learn the gear and get the ship tuned up, it was decided to enter her in every event in which she could sail before the 12th of August. She sailed twelve races in all, and, as luck would have it, we had plenty of strong winds. With the owner's consent, we tried everything to the limit, and in one race, for a time, sailed *Patience* with her sheets hardened right in and her lee rail some 15 inches under water — most brutal treatment, for she has ample freeboard, draws nearly ten feet of water, and has some 40,000 pounds of lead on her keel. Nothing gave the slightest trouble and the mast remained remarkably straight, a great testimony to her designer. The track, in particular, looked fearfully light. As a matter of fact, it was of the same pattern as is used in Mr. Nicholson's "12's"; but it never showed any sign of weakness or gave the slightest trouble. We experimented with the boat's fore and aft trim, and it was not until four days before the Fastnet race that we seemed to have got her just right.

During the Fastnet race we had some strong winds and rough going, but nothing, of course, to be compared with the weather that some of the fleet met. The gear stood up to its work in rough water just as well as it had in smooth. Meanwhile, the Bermuda-rigged yachts which had sailed in the Transatlantic race also finished the Fastnet race without, as far as I know, having any failures at all; and this, added to what I had learned in *Patience*, seems to me to be a convincing proof that the Bermuda rig is now trustworthy in an ocean-going yacht.

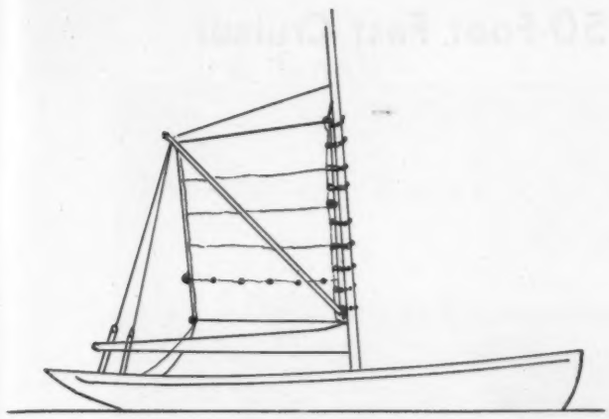
That the new rig has been proved to be reliable would of itself be no reason for deserting such a well-tried friend as the gaff rig unless there were other reasons for so doing. On the score of sailing efficiency alone, I doubt whether, purely for cruising, there is much to choose between the rigs. A well-designed gaff cutter rig has very great all-round efficiency, and off the wind may even have a slight advantage. But when it comes to racing, any small gain in weatherliness counts for so much that the gaff rig is now definitely outclassed. As the water gets rougher this superiority in the new rig seems to become more and more marked, and this is a strong argument in favor of its use for ocean racing.

The rigs of *Jolie Brise* and *Patience* may be taken as good examples of each type, and in drawing conclusions from them there are only three points, as it seems to me, upon which the gaff rig may have the advantage. The first is that, if the real benefit of the Bermuda is to be felt, a hollow mast is essential and a hollow boom almost as necessary. This makes it a luxury rig. The second is that, in the Bermuda rig, the rigging needs more careful attention than it does in the other; and the third, that most vessels do not seem to heave to so well under a jib-headed as they do under a gaff sail.

It may be argued that hollow spars are not necessary. I do not think that this is the case. The greatest value of the Bermuda rig, for seagoing as compared with racing, lies in its lightness. In *Patience*, with a water line length of 50 feet, and a normal sail plan, the mast is about 90 feet long from heel to truck. This practically necessitates the use of a built-up spar, which may just as well be hollow, even if it were not necessary to cut down weight aloft as far as possible. In this rig, the shocks transmitted from the boom, through the sail, are conveyed to the extreme top of the mast, and not, as in the cutter, to the mainmast head only. For this reason, if for no other, the boom must be kept as light as possible.

The advantages of the Bermuda rig seem to me to be many. Great simplicity in running rigging, which, abaft the mast, is reduced to the absolute minimum; reduction of weight and windage; the possibility of using a single standing preventer backstay from the masthead; the greater ease and speed with which the sail can be set, lowered, and reefed; and the elimination of all the strains set up by the gaff, especially in rough water, which is the greatest advantage of all. Not only are concentrated thrust and the wringing of the mast abolished, but the boom gives infinitely less trouble because it is no longer tormented by the gaff. Other points are that, when running, the boom may be squared off farther than is possible with a gaff sail, except perhaps when a vang is used from the gaff end; that when by the lee a jibe does not occur so soon, and when it does, the jibe is much easier. With the Bermuda rig the almost perfect balance which may be obtained between the mainsail and the spinnaker has a marked effect upon the vessel's steadiness when running. Finally, when reefed, under ordinary conditions, the Bermuda seems to retain its efficiency better than the gaff sail.

I was surprised and delighted at the easy motion and speed with which *Patience* would sail to windward in rough water. At first I attributed this to her hull form, but later came to the conclusion that it was to a great extent due to her rig. I believe that her 90-foot mast helped her. It may seem to be a far-fetched idea, but I fancy that a very long, light mast in a strong wind acts as a sort of damper, like a shock-absorber on the springs of an automobile, and that the steadying effect due to windage more than counterbalances that of the momentum of the spar. Every time the vessel's bow falls into a hollow, the mast is brought forward at a tremendous speed, relative to the wind, in its upper part; and though there is much less wind pressure upon the spar when she scends, what there is, is all in the right direction. With the older rig and solid spars, one would



A sprit trysail of the Norwegian type suggested by the author for use with the Bermuda rig

think that the momentum, especially that of the gaff, more than offsets the windage.

In favor of the gaff rig I think it must be admitted that it is suitable for every form of hull, which the Bermuda rig, perhaps, is not. A short vessel with a large sail area can spread her sail more conveniently as a cutter. I do not think that *Jolie Brise* would be as good a cruiser were she Bermuda-rigged.

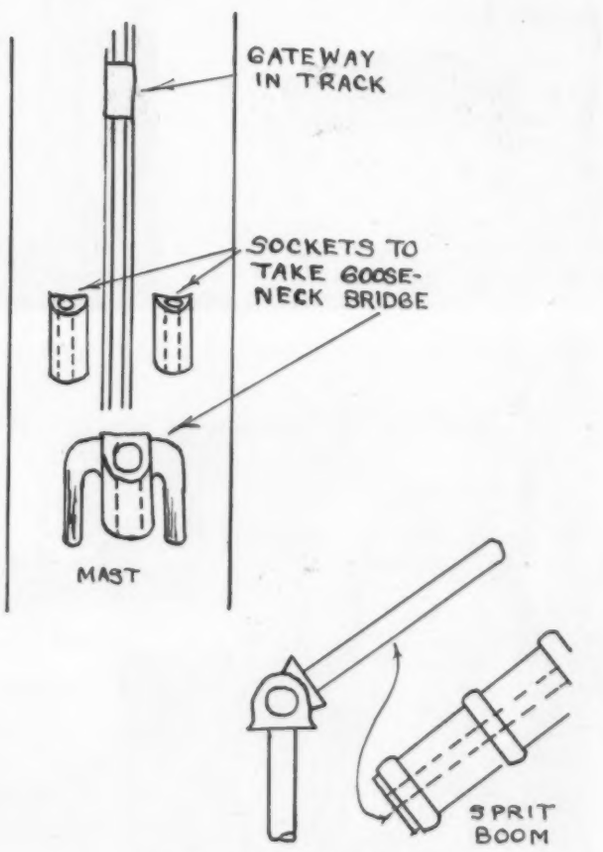
The ideal seagoing rig would, I think, be entirely inboard, with the mast well aft, a short boom and tall, narrow mainsail, and a comparatively large fore triangle. This would be equally good for ocean racing, and for this there would be an advantage in having a mizzen of the minimum size required to entitle the ship to be rated as a yawl. I have noticed in the advertisements in YACHTING the picture of a Ten-Metre yacht which has, to my eye, a most beautiful cruising sail plan (used, of course, with an ocean-going and more powerful type of hull). The mast seems to be almost amidships, and the boat looks as if she would handle splendidly under a double-reefed mainsail and staysail. In the cruiser, the boom end would be far enough inboard to allow of a standing preventer backstay being fitted, and the forward overhang would be very much reduced. The rig, in fact, would be used upon a much longer waterline. The proportion between the length of the boom and the hoist of the mainsail seems to be just right. For cruising, perhaps it would pay to bring the forestay farther down the mast.

A point which seems to me to be of the greatest importance, both in the gaff and in the Bermuda mainsail, is that for seagoing work it should not be laced to the boom. It is far easier, and safer, to reef a loose-footed sail; a reef can be taken in in about one-third of the time and, as the fishermen work it, there is no need for any one to get into a position where he runs any risk of going overboard. They keep the lacing ready rove when the sail is set, and can overhaul the slack of the bights with a boathook. The Bermuda sail, with its short boom, is particularly well suited to a loose foot.

There is one serious fault which I believe is sometimes found in a Bermuda sail, namely, that when it is close-reefed the C.E. moves a long way forward, with the consequence that the ship's head pays off when she should be lying quietly hove to. The failure, I think, may partly be due to the absence of any useful area of sail at a fair height above the deck. Most vessels, I believe, will lie to better under a gaff than under a jib-headed trysail; but the arrangement of halliards and track in the Bermuda rig makes it almost impossible to employ a gaff for the trysail.

The ability to heave to properly is of such immense importance in a cruising yacht that one might be inclined to condemn the Bermuda rig on this count alone, but I think that, possibly, the difficulty might be overcome by the use of a sprit trysail, of the Norwegian type. I remember once seeing, in one of the fjords, a splendid looking yacht of the Norwegian pilot boat type, about 50 feet long, which had a sprit mainsail. These are of a different shape and fitted in a different way from the spritsails which are used in our big Thames barges. I believe that there would be no difficulty in fitting the gear to a Bermuda mast, and that the sail might be useful and efficient. The sprit might serve as a squaresail yard and stout, short, reserve spinnaker boom; the sail as a squaresail in strong winds. I have never had an opportunity of trying the idea, which may be worthless, but I think that it might be worth while to make the experiment.

I believe very strongly that every seagoing cruising yacht ought to have her mast stepped well aft and an underwater profile which ensures that she will have a good grip of the water forward, and these two features seem to me to be of even greater importance when the vessel has a Bermuda rig than when she is rigged as a cutter. Hitherto I have not heard any account of a Bermuda cutter in our waters being successfully hove to in a really bad gale of wind; and by being hove to, I mean lying steadily for as long as may be required, with no one at the helm, as a fisherman does. If any of your readers have had this experience it would be most interesting if you could publish an account of it, together with the lines and sail plan, showing the actual sail under which the ship lay.



Details of fittings for sprit trysail

"Nagerac"—A Modern 50-Foot Fast Cruiser

A 50-foot power cruiser in which great attention was paid to the interior layout is "Nagerac," owned by George K. Gann, of Chicago. The quarters are spacious for a cruiser of this size, and simplicity of decoration and furnishing was sought. The deckhouse living room is finished in plain mahogany and the living quarters in flat ivory tone. "Nagerac" was designed by Henry C. Grebe & Co., Inc., and is powered with two Sterling Petrel "Sixes," which give a speed of 21 miles

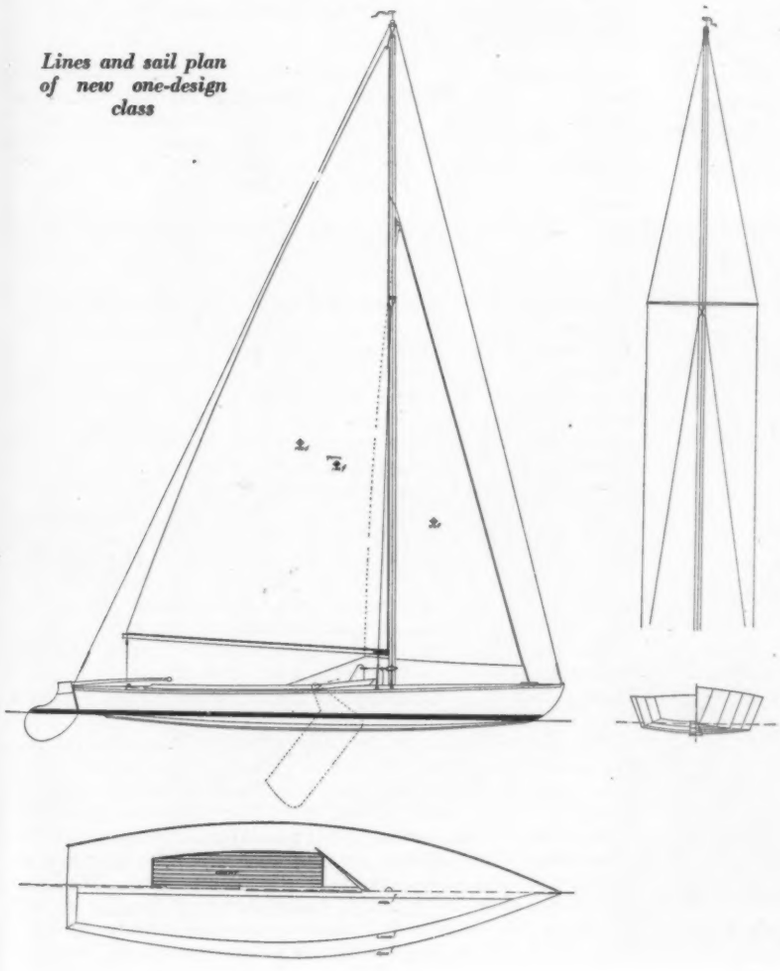
A Small One-Design Racer for Long Island Sound

Mahogany model of new Tern Class, for South Norwalk, Conn. The boats are 17 feet 10 inches long and carry 147 square feet of sail

HERE are plans of a small, shallow draft centerboard boat, designed by Paul Allen, of South Norwalk, Conn., for a handy and fast one-design class for Long Island Sound. Four of these boats, which will be known as the Tern Class, are under construction for next summer's use for members of the Harbor View Club.

Of the chine type, with slightly rounded bottom, the principal dimensions are: l.o.a. 17′ 10″; l.w.l. 16′; beam 4′ 11″; draft 6″; sail area 147 sq. ft. The rig is of the tall, jib-headed type, which suits the hull admirably.

Lines and sail plan of new one-design class



The construction is especially strong in order that the boats may stand rough water and hard usage. The frames are oak throughout, with side and bottom planking of Philippine mahogany. Permanent head and backstays are used, with upper and lower shrouds and one set of spreaders. All stays are phosphor bronze. The forward deck is carried well aft, insuring a comparatively dry boat, with ample deck along the sides. Speed and appearance was the designer's main objective with the idea in view of producing a low-priced one-design class suitable for both seniors and juniors to race and sail. The cockpit is large enough for day sailing.

The original boat, tested out last summer, proved very fast and able to go out in any kind of weather. She crossed Long Island Sound several times; on one trip, using a spinnaker, she sailed from South Norwalk to Lloyds Harbor Light, at the entrance to Huntington Harbor, in one hour and five minutes.

During the past summer different rigs were tried out, and it was finally determined that a tall rig with jib running well up towards the masthead was the most efficient, the boat pointing high and carrying a slight weather helm.

Pains have been taken in the matter of finish to give these little boats a decidedly yacht-like appearance, as the photograph of the model shows. They can be built for something around $400.

Stepping along. Up among the Thousand Islands of the St. Lawrence, the fast runabout is an essential part of summer life. The 30-footer "Bon Papa," owned by P. T. Sharples, of Philadelphia. By the Lyon Tuttle Corp., she does 45 m.p.h. with a 6-cylinder Sterling Petrel

The Month in Yachting

Lake Michigan Racing Results

LAKE Michigan yachtsmen, in spite of the world wide tendency to curtail expenses, maintained a large fleet of top notch racing yachts throughout the summer of 1932. The Race Committees of the various yacht clubs gave the amateur skippers and crews plenty of opportunity to show their skill. There were many long distance cruising events as well as the usual number of short club series.

The Chicago Yacht Club offered the most keenly competitive racing with the largest number of boats qualifying. The club championship was decided through elimination in two series. Each series consisted of six twelve-mile races. The results of these series are as follows:

Class R		*Eagle Class*		*Pup Class*	
Yacht	Standing	Yacht	Standing	Yacht	Standing
Jonnie	.85	*Aquila*	.95	*Ulysses*	.93
Gossoon II	.75	*Altair*	.568	*Alert*	.86
Varya	.63	*Orn*	.563	*Riri*	.74
Ariel	.54	*Falcon*	.39	*Trix*	.52
Nancy	.52			*Wolf*	.44
				Wagtail	.36
				Joit	.36
				Aeolus	.32

Class R sloop "Jonnie," owned by Massie and Giaver, which won the 1932 championship of the Chicago Yacht Club

In the Q Class there was no championship award made and the honors were fairly equally divided as *Hope* won the Virginia Trophy, and *Siren* the Lutz Trophy.

Gossoon II, the fast Class R racer, was chosen to represent Lake Michigan at Detroit in the Richardson Cup Series. As a result she missed several races in the club series which cut down her score so that *Jonnie* carried off the honors in this class. However, the record that *Gossoon* made by defeating the *Bob Kat* of Buffalo and *Shadow* of Rochester proved that she is one of the finest boats of this class ever built. In the Lipton Series for R boats, held in August, the leaders scored as follows: *Gossoon II*, 18 points; *Jonnie*, 15 points; *Nancy*, 11 points.

In the S or Eagle Class the Nutting Cup Series showed *Aquila* as the best all around boat. The score of the leaders was: *Aquila*, 15 points; *Orn*, 12; and *Falcon*, 7 points.

The Pup Class raced for the Gehrmann Trophy and the leaders totalled the following points: *Riri* 22 points, *Ulysses* 20, and *Alert* 20. In the sail-off of the tie for second place *Ulysses* nosed out *Alert*.

The Eight-Mile Buoy Race offered an innovation of interest to racing enthusiasts. This was a club race open to all classes on a handicap basis. However, the novel method of applying handicaps at the start instead of at the finish was instituted. The yacht with the lowest handicap started at scratch and the remaining entries started at intervals equal to the time allowance of the scratch boat in relation to them. This race provided a close and exciting finish. *Jonnie* (Class R) crossed the finish line first by a margin of one-half minute ahead of *Ariel* which slid in ahead of *Aquila* by 45 seconds. All the boats

finished closely bunched and as a result the enthusiastic skippers are planning several starts of this type for next season. *Aquila* scored three straight wins to capture the Fox Trophy in the Eagle Class.

The Star Class showed its universal popularity by drawing a large and closely matched fleet for the season's races. An average of sixteen starters was present for the races, held under the auspices of the Sheridan Shore Yacht Club. The Club championship series resulted in the following standings for the three series:

Name	Total Points
Twinkle Ditto	156
Carol	134
Hummer II	126
Ali-Baba	124
Fram	100
Wet Smack	100
Glider	96
Hermes	92
Walrus	86
Fanny	75
Yo Ho	60

Other Star Class races included the Great Lakes Elimination Series, which was won by George Dalsey's *Bee*. This boat represented Lake Michigan at Peoria for the championship of the Great Lakes. An International Elimination Series was held in June and the leaders scored as follows: *Twinkle Ditto*, 31 points; *Bee*, 30 points; *Pegasus*, 24 points.

The Stars also competed for the Shipping Board Trophy. Out of sixteen starters *Bee* and *Fram* tied for first place honors, with *Wet Smack* next in line. The sail-off gave the prize to *Bee* and ended a season of close and interesting racing.

The Columbia Yacht Club in a series of closed club races, which included a number of triangular races as well as several buoy races, awarded the club championship to *Swanee*.

Jackson Park Yacht Club sponsored a club series for the racing fleet and *Princess*, Q Class, took the Bennett Cup, symbolic of the club championship. The Star fleet had an active season with the result that *Dan*, owned by Fred Reuter, showed herself the best of the Jackson Park racers.

The Milwaukee Yacht Club did not sponsor any short closed races but was active in the longer cruising events.

FRED SPENCER

Delaware River Yacht Club Challenges for Gold Cup

A SECOND challenge for the Gold Cup, America's blue ribbon speedboat prize, has been received from the Delaware River Yacht Club, of Philadelphia, according to Leonard H. Thomson, of Detroit, secretary of the American Power Boat Association. The challenge was filed by E. F. Burrell, secretary of the Delaware River Yacht Club, in behalf of John Shibe, owner of *Miss Philadelphia*, a challenger for the trophy two seasons ago at Lake Montauk.

The Shibe challenge is the second to be received for the 1933 Gold Cup race at Detroit. The first came from George Reis, of Lake George, N. Y., whose *El Lagarto* was the runner-up in this year's contest, won by Horace Dodge's *Delphine IV*.

Dodge, in preparing for the defense of the Gold Cup for the Detroit Yacht Club next August, is building two new boats in addition to the present champion. One is being constructed in England from designs by Fred Cooper and will somewhat resemble Cooper's *Miss England II*. The Gold Cup committee waived restrictions on foreign built hulls last October which allows the entry of the craft. She will be powered by an American motor.

The other Dodge defender is being built at Newport News, Va., from designs by George F. Crouch, who designed *Delphine IV*, and other Gold Cup winners.

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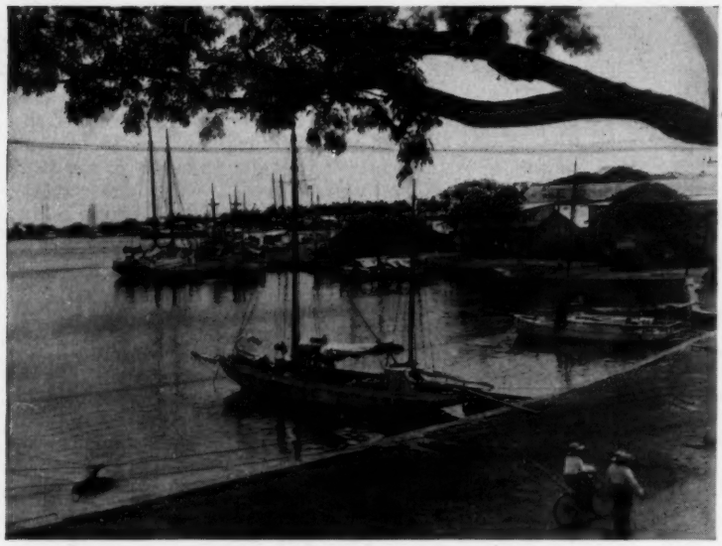
Nine New Star Class Fleets in 1932

ONE organization which goes forward consistently, world conditions notwithstanding, seems to be the International Star Class which added nine new fleets during the year 1932, bringing up the total to sixty-eight. Latest additions abroad are Italy, Algeria and the Bahamas, which, added to a roster which already included France, England, Germany, Sweden, Denmark, Spain, Portugal, Switzerland, Cuba, Hawaii, Canada, Barbados, Venezuela, and the Philippines, makes the Stars the most ubiquitous of all small boats.

The expansion of the past year was accomplished with the

"Twinkle Ditto," owned by M. Hayford, took the Star Class championship of the Sheridan Shore Yacht Club. At right, "Aquila," Eagle Class, captured the Nutting Cup and the Fox Trophy on Lake Michigan



Another 'round-the-world voyager. Ketch "Noddeskallen," at Papeete, Tahiti, after a voyage from Denmark

following new fleets in the United States: Moriches Bay; Eastern Shore of Maryland, on Chesapeake Bay, with headquarters at Easton; Paw Paw Lake, Michigan; South Jersey Fleet, at Ocean City; Greenwood Lake, New Jersey; and most recent, Puget Sound Fleet, with boats at Seattle and Bellingham, Washington.

Racing during the year at the new Nassau, Bahamas, flotilla has been most successful, while activities are already under way at Filippeville, Algeria. The first fleet in Africa was started by a group of French yachtsmen headed by A. F. Saavedra of Cannes. Last minute word has been received from Enrique J. Conill, Vice-President of the Star Class, and the man responsible for its development in Europe, that Italy is building eight boats at Genoa, and will organize additional fleets at Venice and Trieste. One boat is now being built at Naples.

The class will be augmented during 1933 by several known additions, the earliest of which will be a new fleet in Hawaii, at Waikiki, which will be represented at the International Championships at Long Beach, Calif. Other prospective colonization points for Stars are in Trinidad, at Jacksonville, Florida, in Java and at Hobart, Tasmania.

We are rather intrigued at the generosity of the depression-ridden Europeans who are to hold the Star Class Championship of Europe in the home waters of the San Sebastian, Spain, fleet from August 28th to 31st. It is stated, on excellent authority, that the Spanish Star enthusiasts are offering to pay entire transportation costs of any European Star which competes and that in addition the home fleet will supply room and board for skippers and crews for the week. Few American regattas would have any difficulties attracting choice entry lists with such allurements.

Immediately following the European Championship at San Sebastian the French will hold their national championship series at St. Jean de Luz, headquarters of the Cote de la Basque fleet. As there are six or seven flotillas in France this is likely to be a hotly contested series.

As in the past, the Stars will open international racing for the year with the Mid-Winter Championships at Havana, Cuba. The dates are January 26th to February 3rd and the Bacardi Trophy and the Cuban-American team race will both be contested for during this period in addition to the tille event. American entries are *Ace*, Western Long Island Sound Fleet, to be sailed by Adrian Iselin and Ernest Ratsey; *Winsome*, Peconic Bay, Harkness Edwards; a new boat as yet unnamed but to be sailed by Paul Shields of Peconic Bay; Phil Baur's *Okla III* of the South Jersey Fleet. Spain is sending two boats and Eugene Kelley will represent the Cannes, France, fleet with his International Championship entry *Fouah Lieh*. Other possible entries are E. Hallock's *Vega* of Great South Bay; Sampson Smith's *Natty Bumpo* of Otsego Lake, Henry Ludeke's *Curlew* of Barnegat Bay and Dave Atwater's *Moonshine* of Narragansett Bay.

C. E. Lucke, Jr.

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Another Long Passage

A CORRESPONDENT in Papeete sends us an interesting photograph showing the 50-foot ketch *Noddeskallen*, a small Danish yacht that arrived there a short time ago. She left Denmark in May, 1931, arriving via Panama with a crew of three: Capt. Elbo, Stenstrom, and F. W. Sherwood, an American who joined the ship at Cocos Island, where he had been engaged in treasure hunting. The trip is said to be under the auspices of a Danish newspaper.

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New Ruling in Numbering of Outboards

A NEW ruling which deals with the numbering of outboard motor boats has been called to our attention. Hitherto *all* vessels not exceeding 16 feet in length measured from end to end over the deck, excluding sheer, temporarily equipped with detachable motors, have been excepted from compliance with the numbering regulations. The Secretary of Commerce, however, has ruled, under date of November 21, 1932, that this exception shall apply only to "such boats as rowboats and canoes designed and intended for the use of oars or paddles as the ordinary means of propulsion." Boats designed for the use of detachable motors as the ordinary means of propulsion are held *to be subject* to the numbering requirements even if under 16 feet in length.

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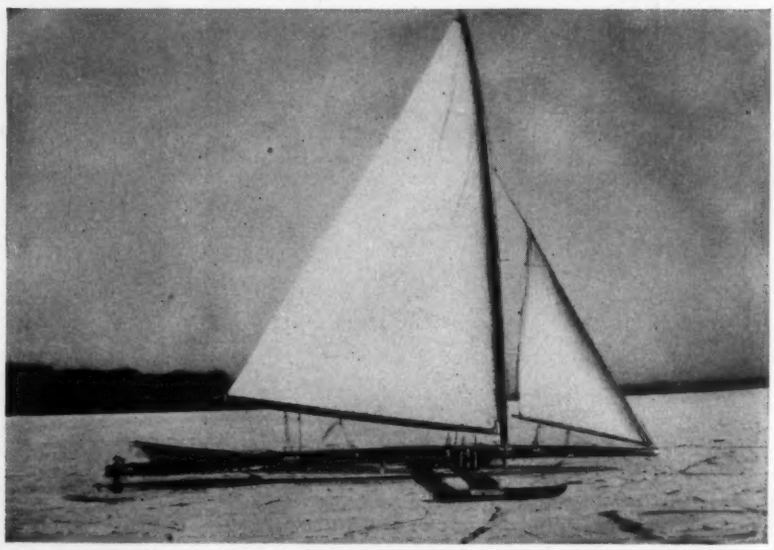
New Charts of Long Island Sound

DURING the past summer, the U. S. Coast and Geodetic Survey has been engaged upon wire drag work in the sound and upon general surveys for chart revision along its north shore. Each year quite a number of obstructions have been located—a total of about 125 to date. New editions of the charts of the locality have been issued which show all the new shoals, etc. Such new editions of Charts Nos. 222, 223 and 224 have been published.



A Class B ice yacht of unusual design, owned by Charles L. Peet, of St. Paul. She was designed and built by Johnson Boat Works, White Bear. She has 250 square feet of sail

Along With the Frostbiters

M. Rosenfeld

"Snowball," Bob Bavier's Frostbite flyer

THE first informal clash between Boston and New York dinks took place at the Mason's Island regatta, back in October, the honors going to Boston when Art Shuman, in the Herreshoff-designed *La Petite*, with Francis Herreshoff tending sheet, nosed out Lorna Whittelsey, sailing *Snow Bird*, with Rod Stephens as crew. Encouraged by this, Boston invaded New York waters in December, coming down to the Larchmont regatta on the 18th with four boats in a motor truck, despite terrible road conditions. This time the tables were turned. Art Shuman, the Boston champion, never had a chance in the Paine-designed *Dirty Duck II*, which sailed in Division I for special boats. The new Mower creations, or refined *Snow Birds*, went like witches in the light going, and cleaned up. Chandler Hovey, Jr., sailing *Emanon* in Division II, for stock boats, did better, taking two firsts during the day's racing. There was a lot of snow on the ground, and a bit of slush ice along the shore, and quite some nip in the air, even for December.

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In response to an invitation from Commodore Marion Eppley, of the Ida Lewis Yacht Club, the Narragansett Bay Chapter of the N.A.D.A. staged a strenuous regatta in Newport Harbor on December 26th in a stiff nor'wester in which two new Loons were initiated — Miss Ruth Wood and Whipple Farnum. Fred Thurber, one of the crew of the famous *Sea Bird* in her Transatlantic passage some years ago, was high point scorer. Plans are in the air for a big regatta next summer when the fleet of the New York Yacht Club makes Newport its annual port of hail.

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The Sea Horse Yacht Club, of Rye, N. Y., broke into the Frostbiting racket on December 26th, when cold weather and a blustering nor'wester kept the attendance down to some 15 craft. A new note was struck when the new Stephens-designed dink carried away her mast when a shroud lanyard chafed through, whereupon Olin Stephens, wet, cold and shivering, immediately dubbed the new craft *Snogood*. However, they threw a new rig into *Snogood* in the afternoon, and did some fine work. Other good performances were turned in by Lorna Whittelsey in the old reliable *Snow Bird*, which revels in hard going, Bill Swan in *Zero*, Bob Bavier in *Snowball*, and George Lauder in *Demon*.

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The first anniversary of the Frostbite Yacht Club was celebrated at the Knickerbocker Yacht Club in Manhasset Bay on January 2nd when no less than 27 dinks appeared and completed no less than eight races in light and moderate breezes and fairly cold weather. During the lunch hour Commodore H. Martyn (Slim) Baker and Vice Commodore Wm. H. Taylor were reëlected, Lorna Whittelsey, Jack Shethar and Sam Wetherill were elected Rear Commodores, Gordon Curry became Fleet Captain, Charlie Henderson Secretary, and a good time was had by all. The title of Dinghy Bailer was enthusiastically bestowed upon George Ratsey, Corny Shields and Ted Clarke, and perhaps some others whose names escape us. Despite the fact that the white polar bear on the official Frostbite emblem is claimed by some to be a good likeness of a guinea pig, the Frostbite banner still waves triumphantly aloft in the winter breezes every week-end, Barnacle Bill Taylor still wears his hip boots and muskrat cap, and all is well on the Potomac.

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Corny Shields, in his new Mower-designed *Sissy*, is again one of the consistent winners, this year in Division I. Bob Bavier, in the smooth-skinned Stephens-designed *Snowball*, is another top-notcher, with Bill Swan, in *Zero*, another Mower boat, always in the running. Lorna Whittelsey often takes the measure of this division with *Snow Bird*, especially when the breeze hardens. In Division II, for stock boats, Ted Clarke, in *Eskimo*, a Ratsey dink, Arthur Knapp in *Sideboard Annie*, a Dyer, and Allen Clarke, in *Feather*, another Ratsey, usually divide the honors.

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The weight of the boat and crew has a lot to do with the speed of different dinks. Several of the newest boats just come within the 150-pound minimum limit, and fairly fly in light airs. On the other hand, Harry Hall's *Cheetah*, weighing 226 pounds, is lost in light going, yet can give them all a race when there is a real breeze. Light weight crews and skippers have a corresponding advantage.

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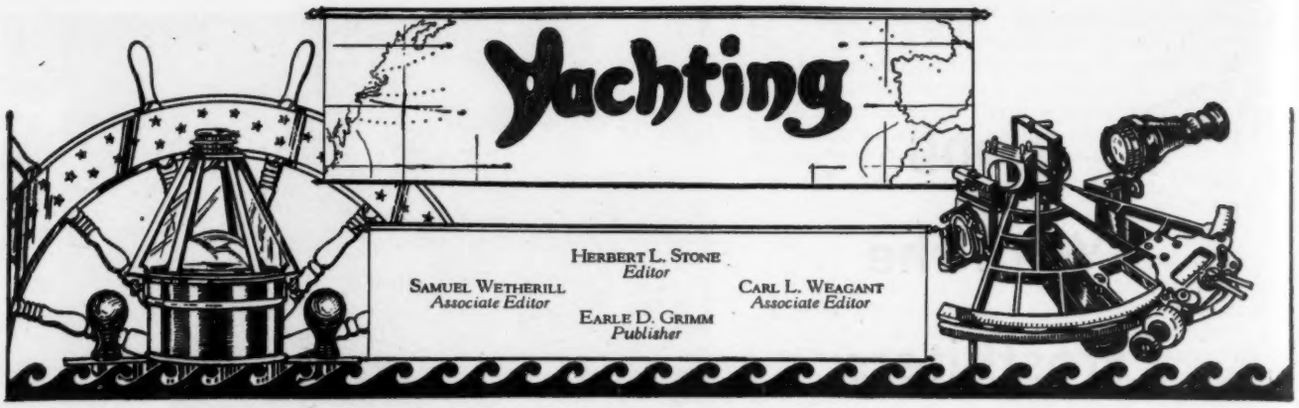
The division of Class A into two sections — Division I for "fast" boats, and Division II for "slow" boats — has worked fairly well so far, but there is little doubt that something further must be done to make fair racing for all. The newer and more expensive boats, lightly built, with fancy rigs and masts rotating on roller bearings, aluminum centerboards, and other gadgets, completely outclass the older stock boats which cost less and have the simple and inexpensive lug rig. George Ratsey's new Uffa Fox creation, with double skin and no ribs at all, is no more of a Class A Utility dink than is a Six-Metre boat. Unquestionably, a new class should be formed for the racing bugs who want speed at any expense, and don't care a whoop about the cost or utility qualifications of dinghies.



EDITORIAL

The Season's Prospects

PROBABLY the most frequent question one will hear asked at the Motor Boat Show this month is, "What kind of a season are we going to have this year?" As between yachtsmen, this refers, of course, to but one thing, the yachting season.

Now the way of a prophet is full of danger, and we are neither prophets nor sons of prophets. So we cannot answer this query to anyone's satisfaction. We can, however, hazard a guess, and our guess is as good, perhaps, as the next fellow's. So here goes!

Judging by the last season afloat, which was a pretty good one after all, in spite of gloomy forebodings, and which found the smaller racing classes and the cruisers out in force, only the larger classes and the floating palaces of Croesus being missing in any numbers, we believe the coming year is going to be even better than the last, from the aspect of the sport. This statement is based on tangible evidence.

In the first place, the feeling of panic as regards the economic structure which was in evidence last spring, has passed. We may not be out of the woods yet, but we are facing the facts of the situation more squarely, and we have more confidence than at this time a year ago—much more. There is no great rush as yet to build new boats, and the expensive playthings of the past will be hard to sell, but those who have boats will be more willing to fit them out, and there is a growing demand for small craft that will give a full measure of enjoyment without making too much of a dent in one's pocketbook. That this is recognized is evident at the Motor Boat Show, where the small boat predominates and the man with only a few hundred dollars to spend can find something for his price. Whereas two years ago everyone was talking in thousands instead of hundreds.

Starting on this basis of small boats for curtailed incomes, we believe a firm foundation is being laid on which to build for the future of the sport. With moderate prices, men are being drawn to the water who will want something larger as conditions improve. The small boat serves a special purpose in introducing the novice to yachting, and in getting more persons afloat — which in the end is highly desirable.

Also, the racing schedules, both in power boat events and in sail, are even more ambitious this year than last, so that there will be plenty of incentive for the man who likes competition to fit out this year. Several new racing classes are under construction for various yachting centers, and we hear that three or four new Gold Cup racers "are in the works." Some international events will give a fillip to the season — and, all in all, the future does not look too bad. There'll be plenty of sport, once June is here, and more boats afloat than last year, or we miss our guess.

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"Boats as Looks Like Boats"

WHILE on the subject of the Motor Boat Show, one is struck this year by the absence of the flashy, highly polished hulls of past years, with their dazzling, plated fittings and luxurious equipment. Paint is at last coming into its own on the runabouts, with a minimum of brass work to keep rubbed up, so that an owner can really enjoy his boat without working his passage each trip. It's a relief to get back to plain finish again, and to see boats that look like boats, and not highly finished pianos. This is, perhaps, one thing we have to thank the depression for — that we get down to essentials and pass up the frills. It is only on the more pretentious, luxurious craft that a high finish is in keeping with a harmonious whole.

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Help for the Poor Navigator

THE coastwise navigator may take heart. No more will he have to thumb the pages of the light list with numb fingers to find out what that fog siren is that he hears coming through the murk, and with watch in hand count the time intervals of the hoarse blasts. All he will have to do now, if what we hear is true, is to raise the flap of his sou'wester, listen for a moment, and then hear the name of the station spoken in a weird, robot voice, "Partridge Island, Partridge Island," or "Montauk, Montauk," whichever may be the case.

For there has recently been installed on Partridge Island, near St. John, on the Bay of Fundy, a fog signal that speaks the name of the station instead of sending forth blasts of varying characteristics on siren or horn. The principle of the device is a steel disk, mechanically operated, on which voice vibrations have been registered, very much as on a phonograph record, but magnified many times. If the new device proves satisfactory, other stations along the coast undoubtedly will adopt the system. And then navigating a ship will be as simple as walking down Broadway — maybe.

IN THE WORLD OF YACHTING

Commodore Junius S. Morgan, Jr.

THE new commodore of the New York Yacht Club, Junius Spencer Morgan, elected at the annual meeting in December, is the third generation of a yachting family to head this oldest of American yacht clubs. In selecting him the organization has again chosen a yachtsman who has been active in racing on Long Island Sound for many years.

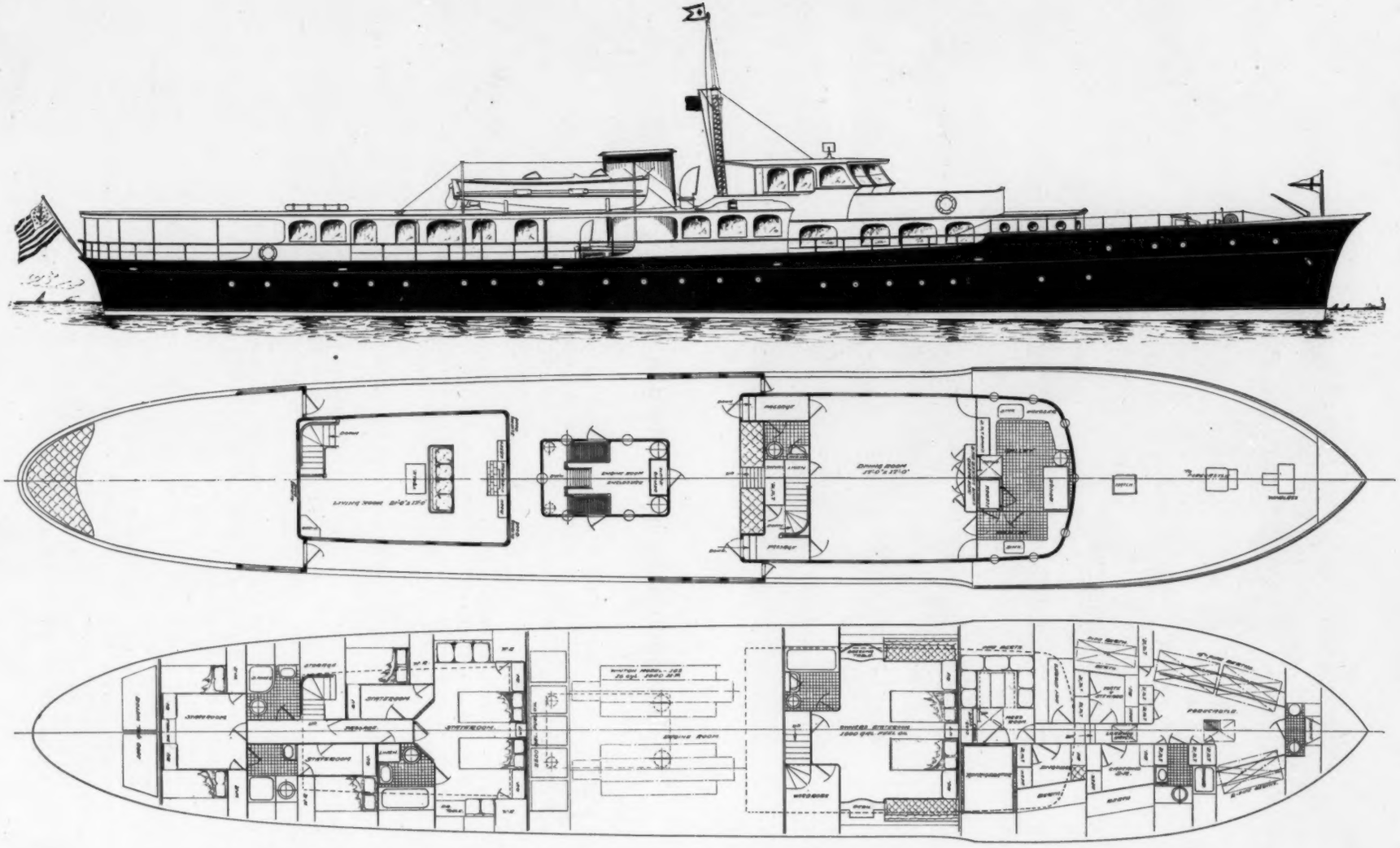
Junius Morgan's grandfather, J. Pierpont Morgan, flew the senior flag officer's pennant from 1897 to 1899, while his father, J. P. Morgan, served as commodore for three years, from 1919 to 1921. The present senior officer has served as vice-commodore and rear-commodore since 1928.

Going back twenty years, to 1912, we find Junius Morgan racing the sloop "Turquoise" in the Glen Cove Jewel Class organized a few years before. She was followed by several other small yachts in which he cruised and raced, and in 1920 he sailed his "Mary Rose" in the Victory Class, organized just after the close of the war, during which Mr. Morgan saw service abroad in the U. S. Naval Reserve. Then followed several years in the Seawanhaka Yacht Club one-design S Class "Puffin," and in the then hot racing 20-rater class (R) in "Game Cock," which he owned with George Nichols, and in his own boat, the "Grayling."

When the M Class was organized Junius Morgan had the "Windward" built, and raced her for two or three years. Although he still owns her, none of this class was out last year. In 1930 he was an active member of the syndicate which built the "Weetamoe" for the defense of the America's Cup. He also owns the fast power boat "Shuttle," built in 1928, and before that he owned the power cruiser "Magnet."

It is hoped that Commodore Morgan's racing flag will be seen again this year when the season opens.

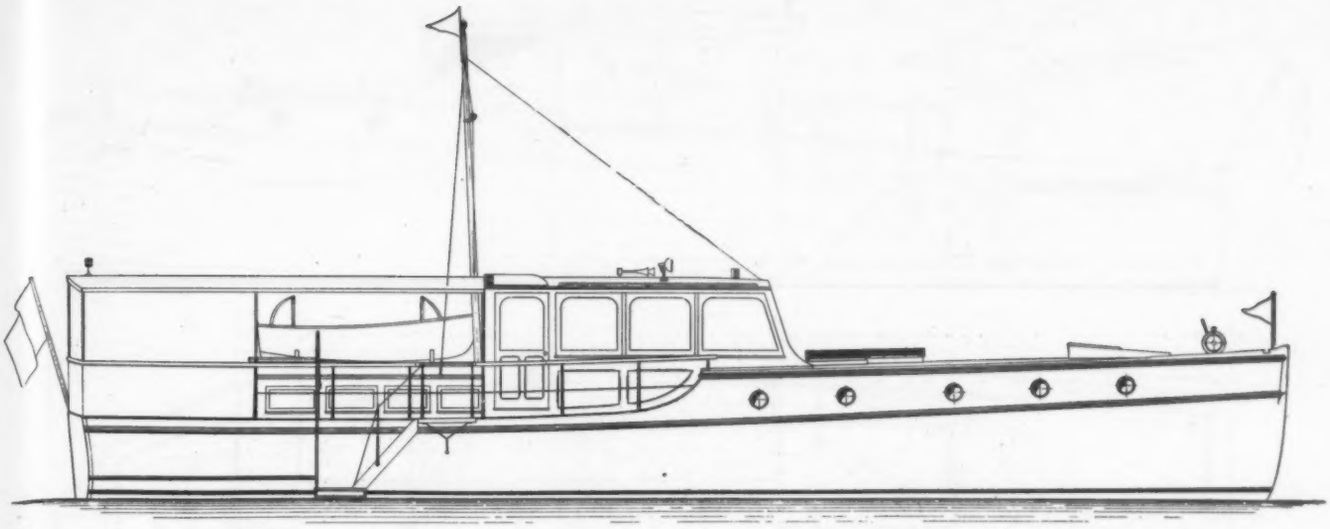
Speed, Seaworthiness and Comfort in This 137-Foot Diesel



Showing the influence of the successful fast Diesel-powered cruisers developed in the past few years by Thomas D. Bowes, M.E., of Philadelphia, the plans of this new 137-footer are of unusual interest, illustrating, as they do, an unusual combination of maximum owner's quarters, speed, seagoing ability, and minimum operating cost. The design embodies all the characteristics of this designer's work, having a long, rakish hull with raised head, sunken dining saloon with sunken deck and pilot house over, and the main saloon in a separate house aft.

The owner's stateroom and bath are forward of the motor compartment, while the guests' quarters, consisting of two double, two single staterooms and three baths, are abaft it. There are two deck houses on the main deck, with protected shelters abaft each, where are located main saloon, dining saloon, galley, pantry, etc. Above the forward deck house are a large sun deck, pilot house, and flying bridge.

A maximum speed of 21 miles an hour is assured with twin 12-cylinder Winton Diesels of 1000 h.p. each. The equipment includes forced draft type heating, cooking and ventilating systems.



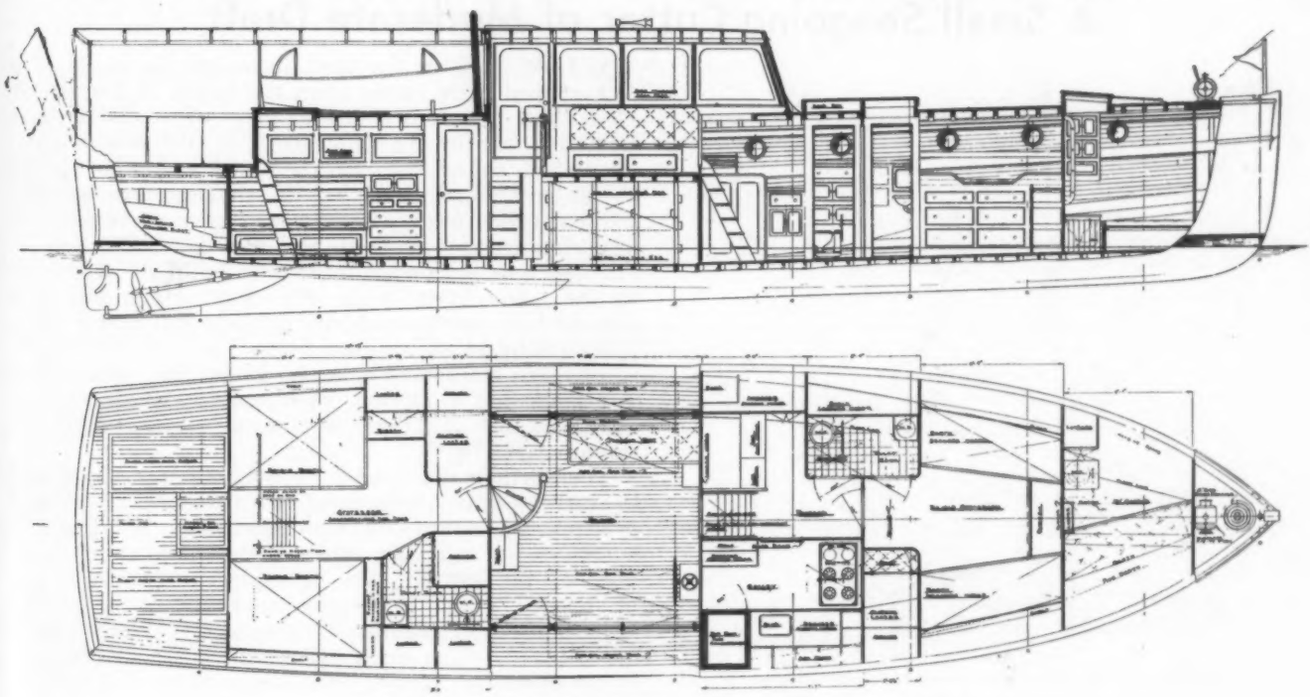
Outboard profile of the 56-foot power cruiser designed by Winthrop L. Warner for Southern cruising

A Comfortable Power Cruiser for Southern Cruising

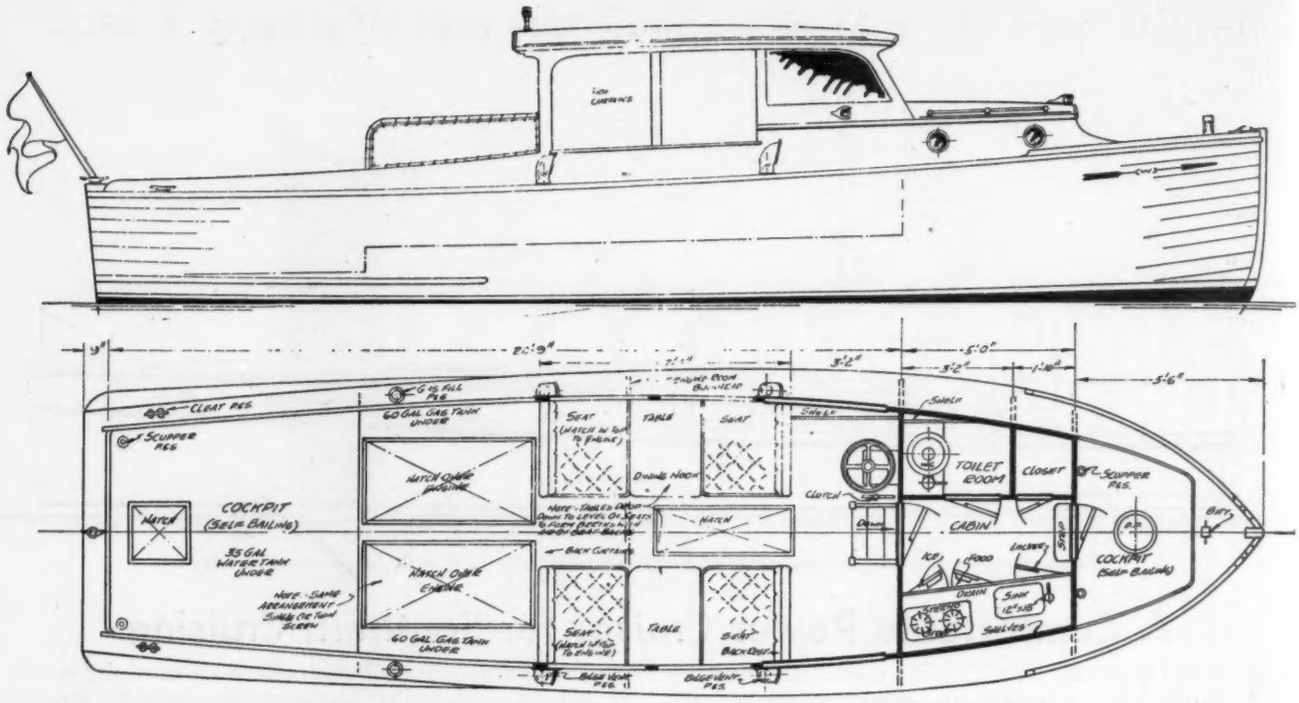
WINTHROP L. WARNER, naval architect of Middletown, Connecticut, prepared the accompanying plans of a 56-foot power cruiser for a Connecticut yachtsman who wanted a roomy, comfortable cruiser with moderate draft for Southern cruising, laid out with the idea of providing comfort for extended cruising for a few people, rather than trying to crowd in accommodations for a large party. The principal dimensions are: l.o.a. 56′ 3″; l.w.l. 55′; beam, 14′ 8″; draft, 3′ 2″.

The boat is a twin screw craft, with a pair of Gray Cruiser "8's" located aft, operating through Gray V-drives. Twin skegs are used, so that the boat will not heel over if grounded. Twin rudders are also shown. The location of the motors aft allows the placing of the fuel and water tanks amidships, so that the fore-and-aft trim will not be affected when either are partially empty or full up. The motor compartment may be entered either through flush deck hatches or through a door under the companionway steps.

The forward part of the boat, entered from the deck house by means of the companion steps, is given over to a forecastle with pipe berth, toilet, etc., double stateroom with bureau, drawers, lockers, and other stowage space, and an excellent galley and toilet room. The after cabin is fitted with two large double berths, clothes locker, bureau and buffet. A large toilet room is built in in the forward starboard corner. Special care has been taken to assure complete ventilation at all times in all parts of the ship. Tankage for 400 gallons of fuel, and the same of water, assure a large cruising radius without the necessity of making port for supplies.



Inboard profile and cabin plan of the Warner-designed 56-footer



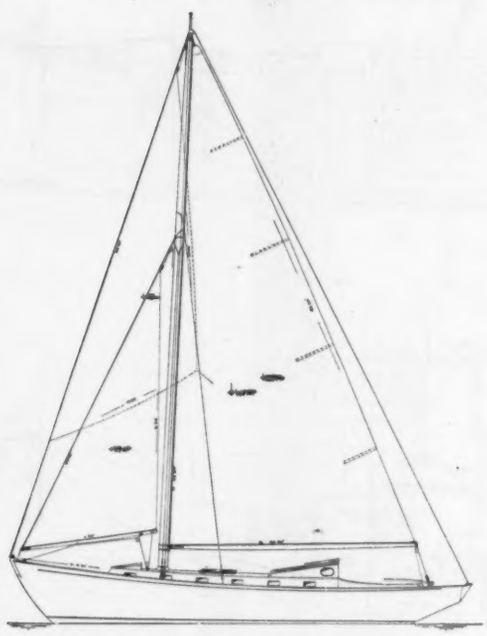
Outboard profile and interior accommodation plan of the 34-foot Wheeler fishing skiff

The 1933 Model Wheeler Fishing Skiff

THE plans above show the 1933 model fishing skiff turned out by the Wheeler Shipyard, of Brooklyn, as a result of the demand for a rugged, useful craft which would be equally acceptable as a fishing boat or day cruiser. She is a 34-footer, with 9 feet 6 inches beam, and is the latest development of the well-known Wheeler sea skiff hull.

The large after cockpit is excellent for fishing or lounging. The 'midships section, with permanent top, may be completely closed in with side curtains. The trunk cabin shelters a galley, toilet room, closet, etc. The engine compartment is laid out to accommodate either single or twin screw installation, according to the desires of the individual. The absence of fancy trim and finish assures a boat entailing the minimum of upkeep.

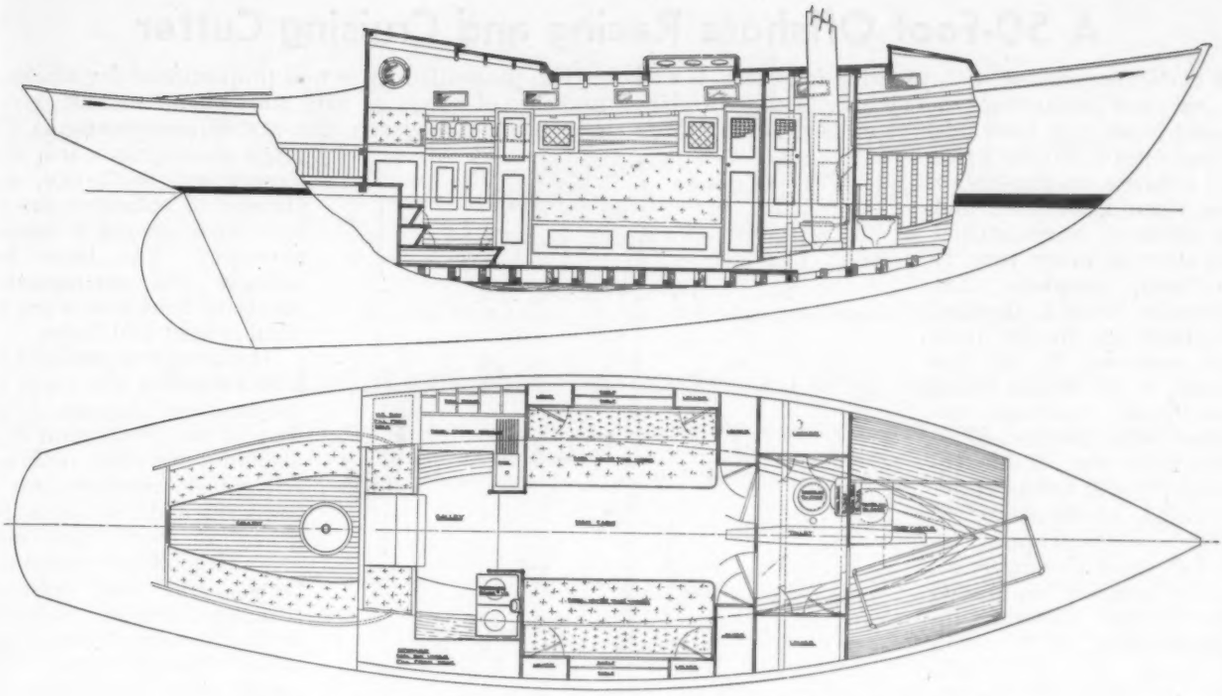
A Small Seagoing Cutter of Moderate Draft



Sail plan of the Burgess-designed cutter

BELOW and on the next page are the plans of a rugged little cutter from the board of Burgess & Donaldson, which is a development of a smaller boat built last year for Mr. Elihu Root, Jr. Mr. Root's craft, of 20 feet water line, was designed with the special object in view of producing the shoalest possible outside-ballasted boat which would give a reasonable performance to windward. She was decidedly successful, and now her owner intends to build a larger craft to the same lines, while Mr. Paul Hammond has already had construction started on a still larger craft, still sticking to the original lines. The sail plan shown is of Mr. Hammond's boat, while the cabin plan was made for a Detroit yachtsman. The dimensions are: l.o.a. 39′ 5″; l.w.l. 30′; beam, 10′ 6″; draft, 5′; sail area, 662 sq. ft.

The springy sheer with high bow, short ends and liberal freeboard, combined with ample beam and deadrise, all indicate a fine seagoing form. The jib-headed rig is snug and efficient, with permanent backstay to the taffrail. The arrangement shown is one of several which are easily adapted to the roomy hull. A motor of medium size should drive her six miles or better in calm water. Excellent room is obtained below decks by running the cabin trunks well forward of the mast.

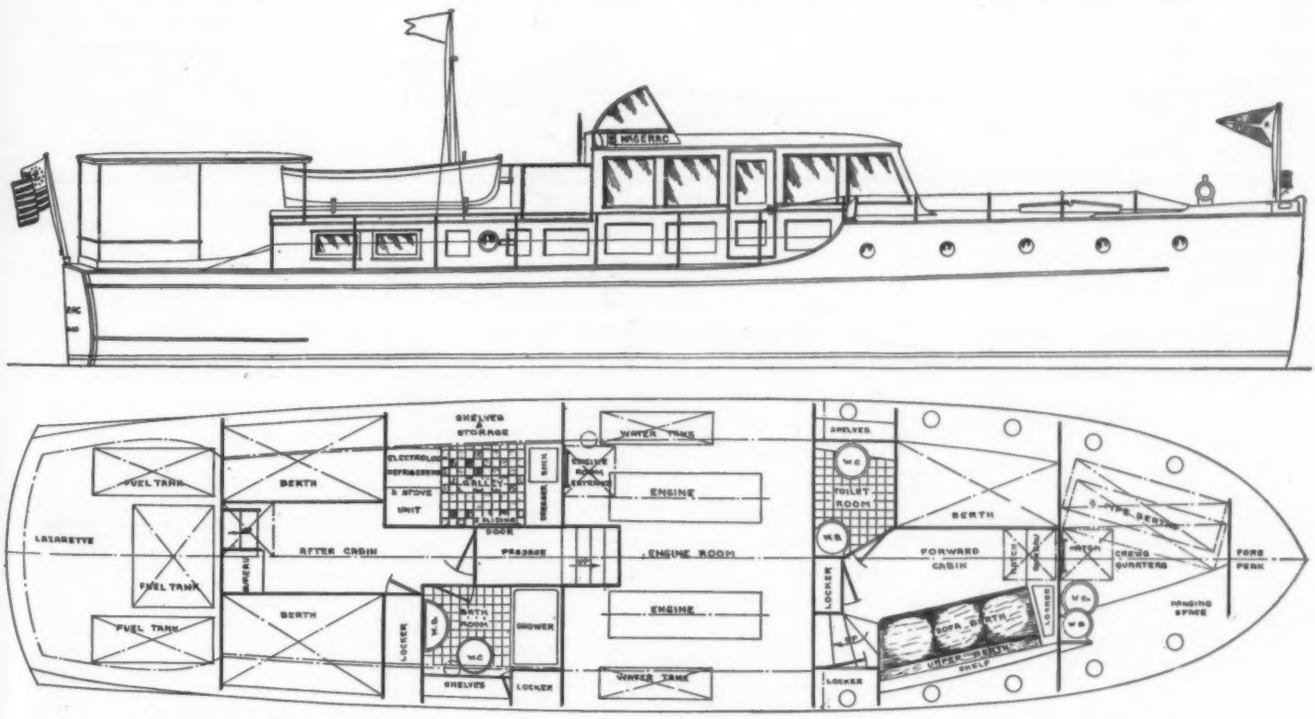


Inboard profile and cabin plan of the Burgess-designed cutter described on preceding page

"Nagerac," a 22-Mile Great Lakes Express Cruiser

ONE of the well known express cruisers on the Great Lakes is *Nagerac*, whose plans appear below. She is from designs prepared by Henry C. Grebe & Co., Inc., and is owned by George K. Gann, of Chicago, and is a good illustration of the trend toward the flying bridge with wheel and operating controls outside the deckhouse. Her dimensions are: l.o.a. 50′ 11″; l.w.l. 50′ 1″; beam, 12′; draft, 3′ 6″. She is powered with a pair of Sterling Petrel motors, and attains a speed of 22 miles an hour.

Abaft the engine compartment is a fine after cabin with two berths, toilet room, galley, etc. A forward cabin contains three berths, and has a second toilet room adjoining. The forecastle has berths for two paid hands, toilet, wash basin, etc. The commodious deck house is used as a dining and lounging saloon.

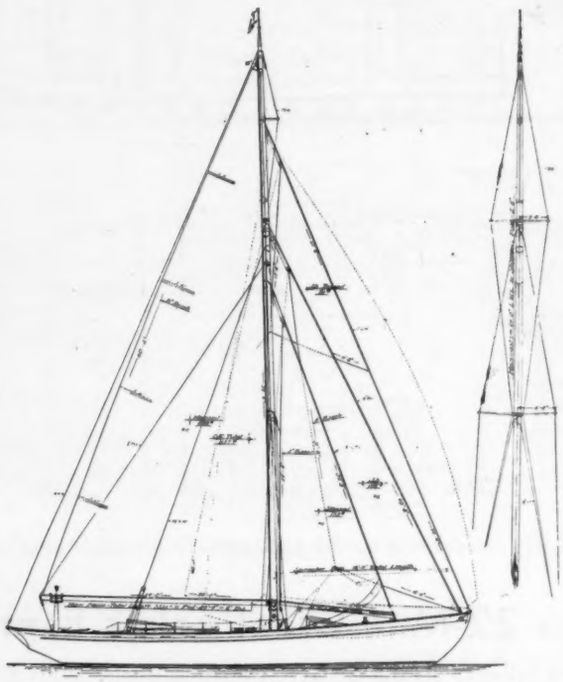


Outboard profile and cabin plan of "Nagerac," the 50-foot express cruiser owned by George K. Gann, of Chicago

A 50-Foot Offshore Racing and Cruising Cutter

ANYONE conversant with yachting in general is well aware of the fact that there is a well-defined and increasing interest in both offshore cruising and offshore racing—more boats take long cruises to far-away places than heretofore, and long distance races attract more entrants every year. It is natural, therefore, that yachtsmen should demand craft that are fit for both these purposes. To fill this demand, A. Mason, a young West Coast yachting enthusiast who graduated recently from the Webb Institute of Naval Architecture, has turned out the attractive craft whose plans appear on this and the following page. She is a shapely jib-headed cutter of the following dimensions: l.o.a., 49′ 1″; l.w.l., 38′; beam, 11′ 3″; draft, 7′ 5″; sail area, 1137 sq. ft. The outside ballast is lead, and amounts to 44% of the ship's total weight of 18,360 pounds.

The hull has a distinctly seagoing look, with short, well-turned ends and ample freeboard. Deadrise is good, and bilges firm. The long, raking keel and easy water lines, diagonals and buttocks indicate a form which should be easily driven in rough going, while the beam and ballast, plus the ample freeboard, assure excellent stability. She is flush-decked except for a small cabin aft.

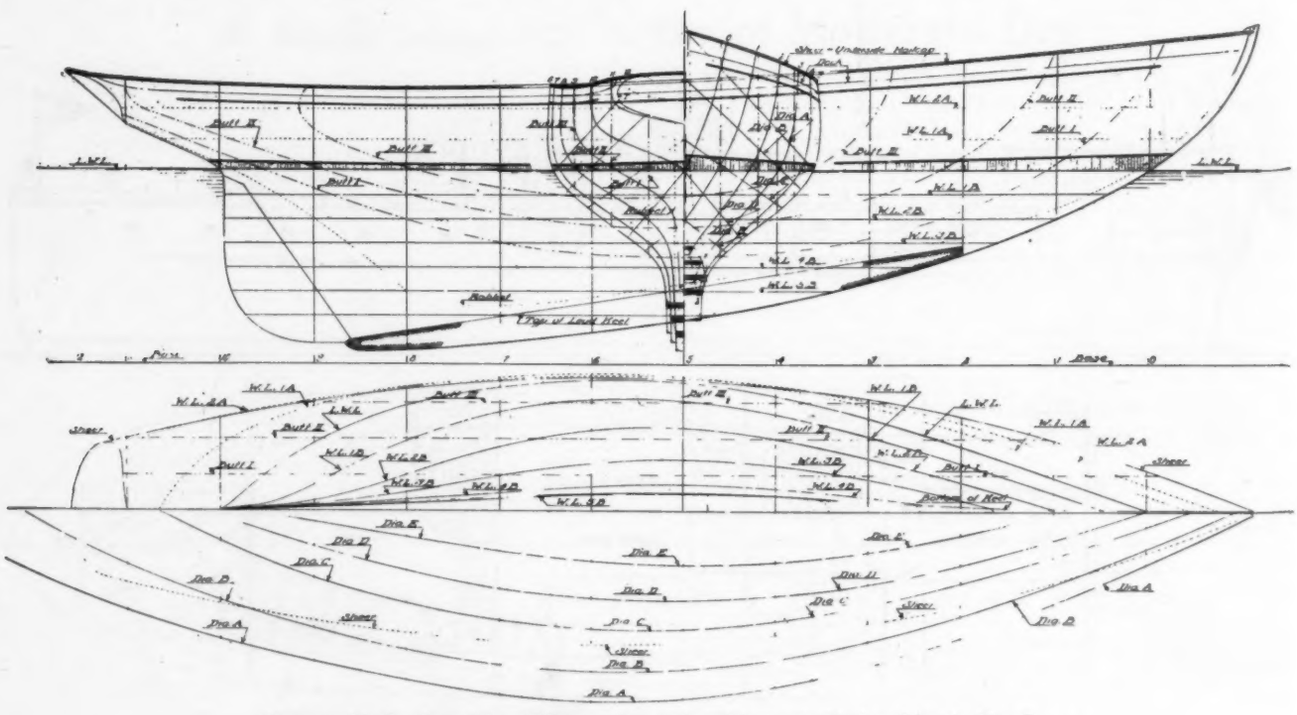


Sail and rigging plan

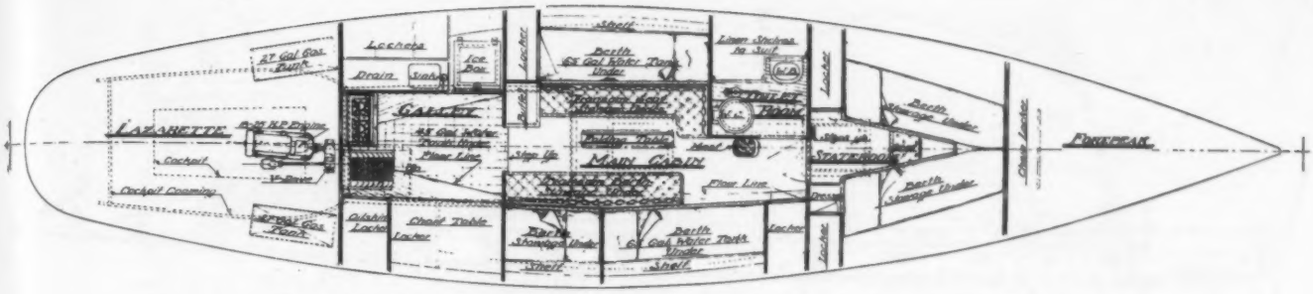
The jib-headed rig is well proportioned for efficiency and ease of handling, with mast placed well aft, giving a mainsail of moderate size, and efficient headsails. The rig is entirely inboard, with permanent backstay, and staysail of sufficient size for heaving-to should it become necessary. The large fore triangle will accommodate plenty of light sails when the wind is light and fluky.

The interior is well laid out best to utilize the room for the intended purpose. At the foot of the companion steps we find a fine chart table and navigator's compartment to starboard, and a well-equipped galley to port. The main cabin has three permanent berths and two extension transoms, besides a buffet, several lockers, drawers, and other stowage space. The toilet room is abreast the mast, to port. Forward of this is a double stateroom, with dresser, two lockers, and storage space under the berths. The forepeak has plenty of stowage space for sails and ship's gear.

A 4-cylinder motor, with V-drive, is placed in the forward end of the lazarette. Twin 65-gallon water tanks are located under the berths in the main cabin, and gasoline tanks are under the after deck. The decks give plenty of room for handling sails and stowing a dinghy.



Lines and body plan of the offshore racing and cruising cutter designed by A. Mason

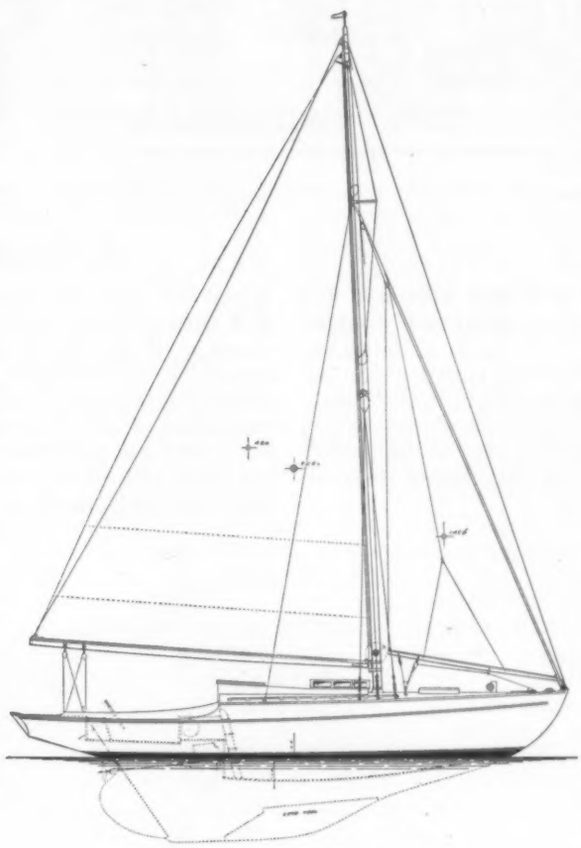


Accommodation plan of the 49-foot cutter designed by A. Mason, described on preceding page

A Combination Racing and Cruising Auxiliary

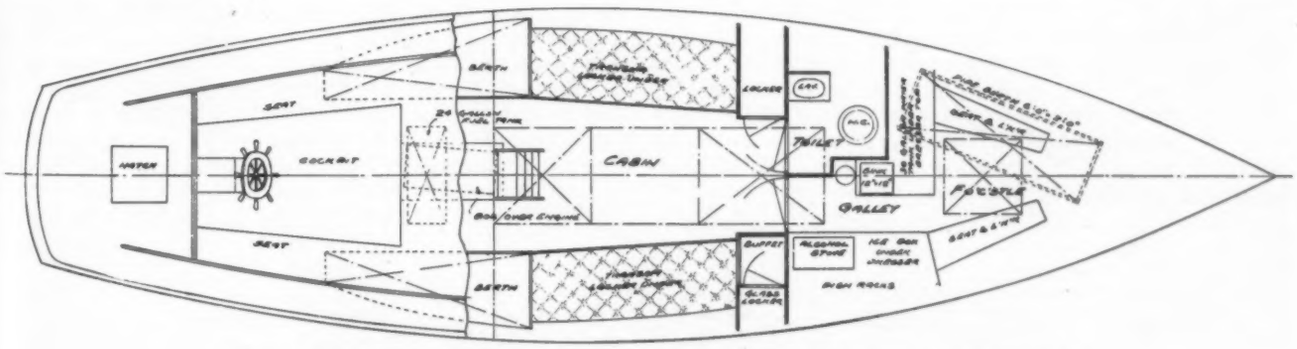
FREQUENTLY these days we hear a plea for a somewhat different type of racing craft of moderate size than is usually found in the average racing fleet — a boat with real cruising accommodations, with a fine turn of speed for racing, and an auxiliary motor for cruising when the wind fails and for getting to and from races under the same conditions. The accompanying plans apparently fill the bill. They are not an experiment, but are a development of the successful Bird Class, a somewhat smaller boat which has been used for both racing and cruising on the West Coast. Both designs are from the board of John G. Alden, the newcomer being of the following dimensions: l.o.a. 37′ 11″; l.w.l. 27′ 8″; beam, 10′ 4″; draft, 5′ 11″; sail area, 625 sq. ft. The lead keel weighs 8500 pounds.

The plans show a raised deck type of boat, whereby the maximum amount of cubic feet of space is obtainable inside the boat, plus reduced cost of construction. Six feet of head room is obtained in the main cabin, and five feet seven inches abreast the mast and for some distance forward of it. The cabin is decidedly roomy, with two quarter berths, two transom berths, good galley, toilet room, and a fifth berth in the forecastle. A Gray 4–35 motor is located abaft the companion steps, with 20-gallon fuel tank strapped up under the bridge deck. A Hyde feathering wheel, installed under the port quarter, makes so little drag when sailing as to be unnoticed.

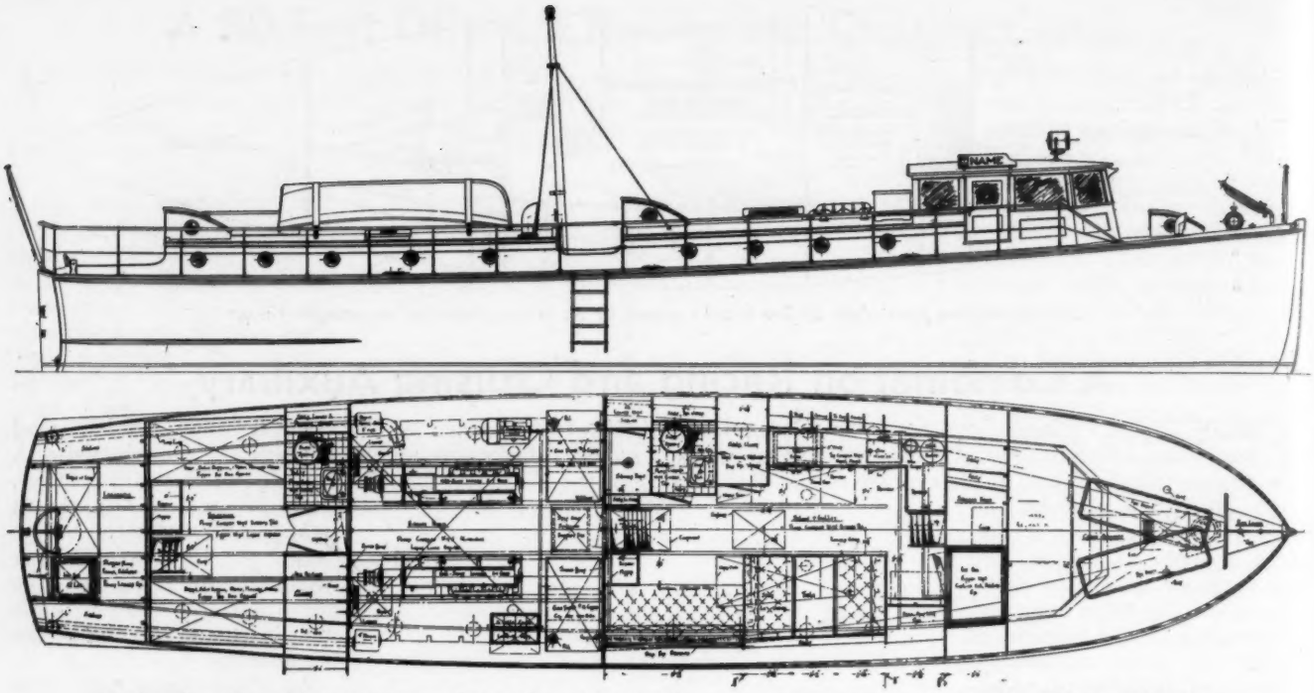


Sail plan of the Alden-designed sloop

As these plans were prepared for a San Francisco yachtsman, who hopes to start a one-design class, the rig is decidedly snug, but ample for the severe conditions generally encountered in San Francisco Bay. An ingenious arrangement of the runners, which makes it unnecessary to slack off the leeward runner when turning to windward, is a feature which every cruising yachtsman will appreciate. With an enlarged rig, this boat should be the answer to the demand of yachtsmen who want not only a boat for racing, but a cruising boat as well. She can get to and from the starting line without a power tender, wind or no wind, and may be used for all-round cruising when the owner tires of the triangular speed contests. A class of these boats should prove decidedly popular in various localities.



Cabin plan of the proposed one-design class for San Francisco Bay, designed by John G. Alden



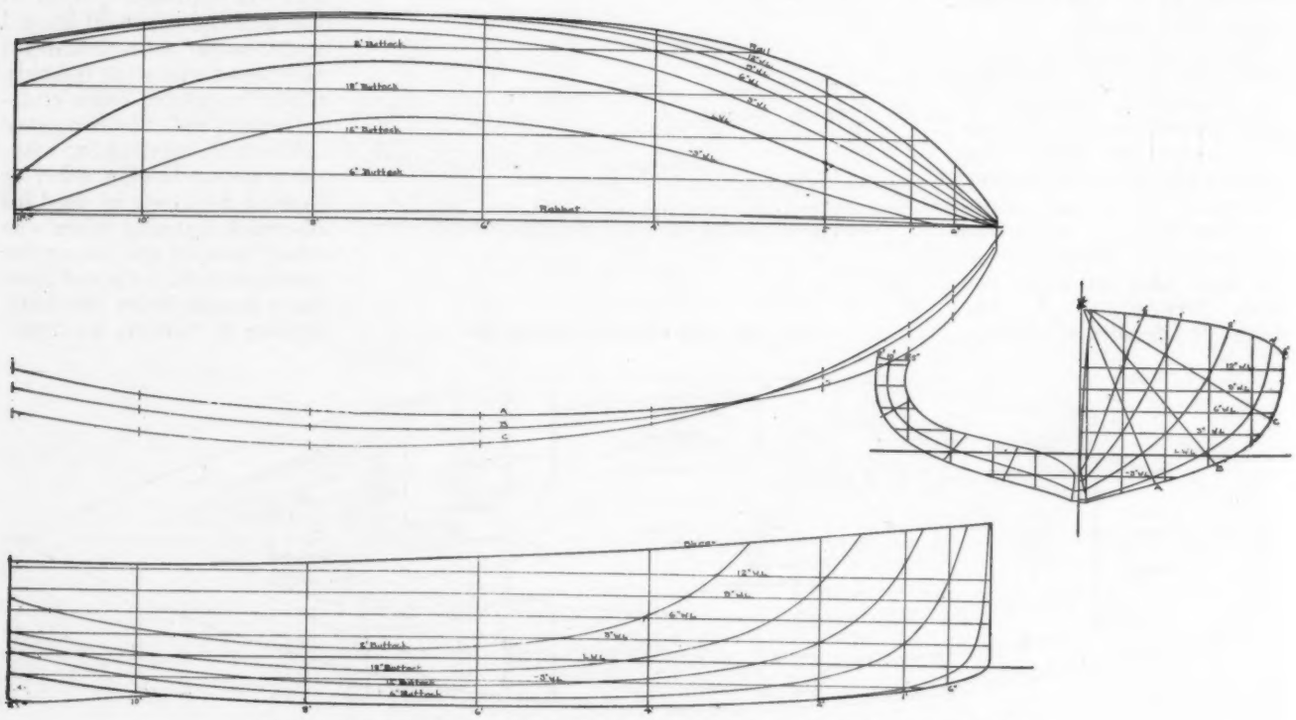
Outboard profile and interior accommodation plan of the 25-mile express cruiser "Renba," designed by Eldredge-McInnis

"Renba"

ABOVE are shown the plans of *Renba*, a 61-foot express cruiser of unusual type designed by Eldredge-McInnis and built by Lamb & O'Connell, of Scituate, Massachusetts. With twin Hall-Scott Invader motors she has a top speed of 25 m.p.h. Photographs of *Renba* appeared in our January issue, and the plans are reproduced this month to give a better idea of the profile and interior layout, both of which show many unusual features that are very interesting.

A Frostbite Dink

BELOW are the plans of a Class A, or Frostbite dinghy from the board of L. Francis Herreshoff, designer of *La Petite*, a noted winner in the dinghy regattas around Boston. She is just under the maximum length allowed, 11′ 6″, and just over the minimum beam restriction of 52″. The rig is not shown, but the designer has stated his preference for the high gunter rig, which has been adopted by a majority of the most consistent Frostbite performers.



Lines and body plan of a Class A Frostbite dinghy designed by L. Francis Herreshoff

Under the Lee of the Longboat

by Cap Stan

GIDGE GANDY, the St. Petersburg go-getter, has the following comment to make anent my remarks about his recent article: "The Cracker boys appreciate your kind words, but don't take 'famous' naval architects too seriously, since most of them live in the frozen North where they have little opportunity to sail. Sailing the year 'round instead of week-ends in August, the boys down here become so sophisticated by the time their voices change that they discard the funny papers for N A. textbooks and the Blue Book of the N.A.Y.R.U." Sort of Baritone Babies, Gidge? Well, it may have been that way in days past, but nowadays .the Famous Naval Artichokes may be seen any week-end, all winter long, from Boston to New York, cavorting around in Frostbite dinghies regardless of ice and snow, of which there isn't half as much as the Crackers imagine. Ever exchange bailers for ice picks, Gidge, or blast channels through the ice with a blow torch in order to get round the weather mark? Great stuff — come on up and try it; you may — or may not — enjoy it, but it'll be an experience you won't forget in a hurry.

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Dick MacSherry, who is ladling out publicity for the Gibson Island Yacht Squadron, is authority for the announcement that the coming race will be held under the general rules and conditions of last year's Bermuda Race, except that they won't attempt to limit sails except as laid down in the rules of the N.A.Y.R.U. Then word comes along that in the St. Petersburg-Havana Race they will add 50% of the area of light sails to the area of the working sails, "working sails" being defined as those used in going to windward. Quite evidently, the Chesapeake Bay sailors believe in plenty of light sails, free of tax, while the Crackers are going to sock you plenty for off-the-wind kites. Both outfits are in for plenty of kicks, if you ask me. Pleasant dreams, Committeemen!

+ + +

The Boston Frostbiters showed commendable sportsmanship in shipping down four of their dinks to Larchmont early in December in a fruitless effort to clean up the New York contingent. They did manage to win two races in the Stock Division, but in the Special Division their champion, *Dirty Duck II*, never even placed. But Boston isn't going to stay licked. Already they are designing and building new creations, and it won't be long before Beantown will be giving the Gothamites something to think about.

+ + +

If all the Yankee ocean racers who are talking about taking a crack at the Fastnet Race actually do it, the Britishers will certainly have to look to their laurels. *Brilliant* is definitely going. *Dorade* is a good possibility. George Roosevelt is hankering to try it again with *Mistress*. And there is a whisper that *Grenadier* may also swell the fleet. Unless there are changes made in the measurement rule and time allowance tables, my money goes down on *Dorade* to repeat her 1931 victory, with *Grenadier* scrapping it out with *Niña* for second prize.

+ + +

A point often brought up for discussion is what to do with weather cracks in spars. One chap will tell you to fill the check with white lead putty. Another recommends one of the fancy seam fillers. A third tells you to use plastic wood, and a fourth has some secret dope which he mixes up out of beeswax, white lead, mutton tallow and what have you. Then the argument is settled (?) by some expert who assures you that you should *never* fill a weather crack with *anything* — leave it open, so the air can get in and dry it out, otherwise you'll have a half-filled crack, trapped dampness, and a rotten spar in a season or so. Maybe the last fellow has the right dope. Still, there are a lot of us who dislike gaping cracks in our spars, and would like to fill them up with something efficient and harmless. Who can give us an authoritative answer to this perplexing problem? Speak out, Mates, we need advice.

+ + +

My hat is off to J. Edward Crowley, Jr., and his plucky wife for their Transatlantic voyage in *Ochito*. There are worse boats than Friendship sloops, but did you ever see a worse rig than *Ochito* carried? Wonders never cease.

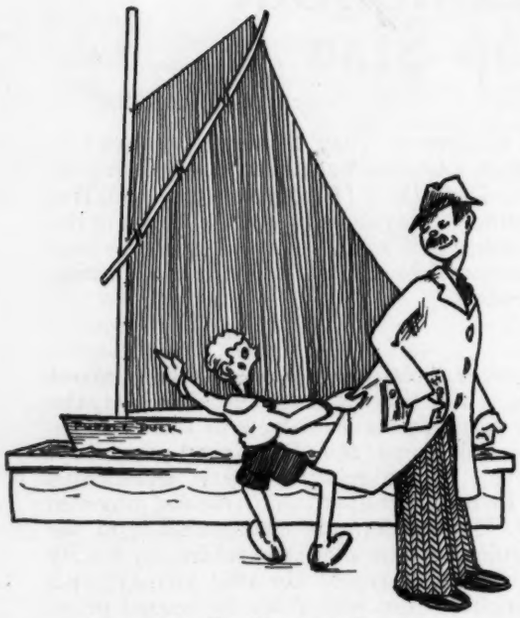
A Day At the Show

By PAUL TROTH

His disappointment was evident. There, immediately in front of him, was the card bearing the price

She did not care whether the ship was run by gasoline or not so long as the beds were soft

Catalog hounds



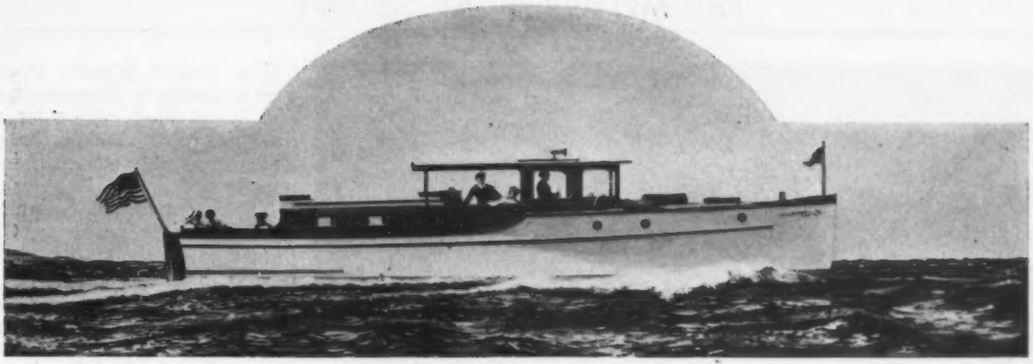
A promising Frostbiter urges his claims

"It ain't for fishing, is it?"

The complete cruiser

Left. "Let's pretend it's ours, just for tonight!"

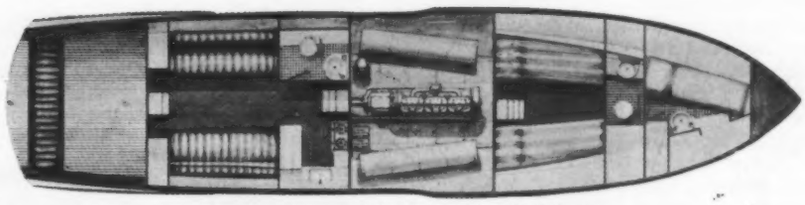
Right. A big business deal on a sport sedan was in progress



The 47-footer exhibited by the Consolidated Shipbuilding Corp. is a double cabin cruiser with graceful lines and a speed of 20 statute miles per hour

The 1933 Motor Boat Show

A Survey of Boats, Engines and Equipment at the 28th Exhibition



Interior layout of the Consolidated 47-footer

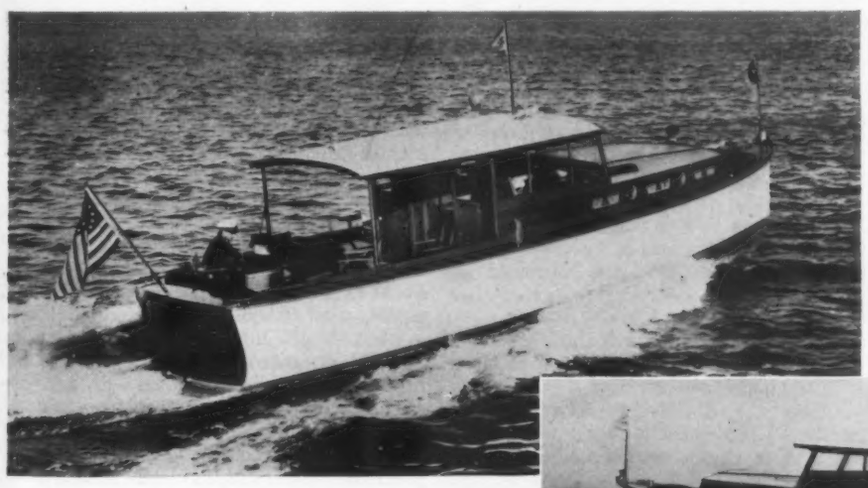
The Consolidated 47-Footer

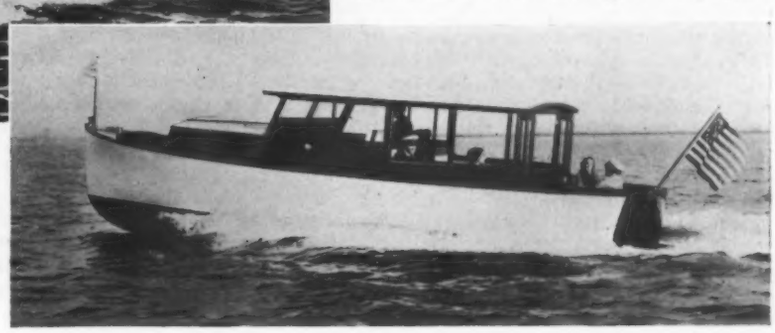
THE 47-foot cruiser designed and built by the Consolidated Shipbuilding Corp., of Morris Heights, New York, exhibited near the center of the main floor, combines gracefully proportioned lines in a modern hull that is finished in every detail. As is always the case with the Consolidated exhibit, she is the product of fine craftsmanship and is a finished example of the boat builder's art, besides being a comfortable cruiser of enduring utility.

Their show boat this year is a double-cabin job, and the layout is most practical, with the main cabin aft adjacent to the spacious galley and toilet room. The galley is so located as to be convenient both to the bridge deck amidships and the after cabin so that meals may be readily served below or on deck. Forward of the engine room, which is under the bridge deck, is a spacious cabin with separate toilet room. The captain's quarters are forward and are provided with all conveniences. A large cockpit aft provides ample seating space for large parties, as does the sheltered bridge deck.

The Consolidated 47-footer is powered with a 180-h.p., 6-cylinder Speedway engine capable of giving her speeds up to 20 statute m.p.h. Two 150-gallon copper tanks give ample cruising radius and a tin-lined copper water tank assures a supply of sweet water.

Included in the Consolidated exhibit is a unique 14-foot electric bateau designed for small lakes or private ponds. Being a rather novel craft it should prove of considerable interest to showgoers.

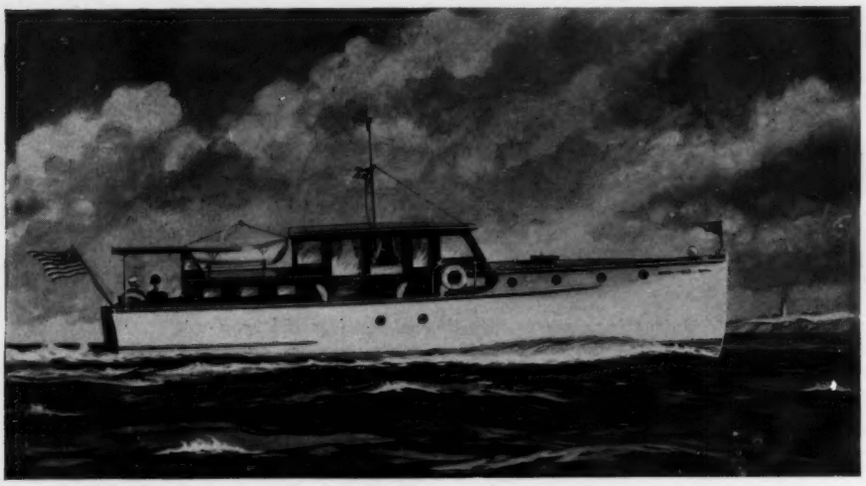




The new single cabin Elco Cruisette, 38 feet long, is an able and handsome boat, with the cockpit arranged for the convenience of the fisherman. She has cruising accommodations for four persons. At right, the Elco 32-footer, a double cabin boat with a speed of 17 to 19 m.p.h., and sleeping accommodations for six

The Elco Fleet

THE 1933 Elco fleet offers the yachtsman the largest number of models and the widest variety of cabin arrangements and motors that Elco has ever turned out. The fleet ranges in sizes from



The Wheeler 46-footer is one of the largest cruisers at the Show. She is powered with a 100-h.p. Winton Diesel

24 feet up to 60 feet and includes fourteen models, many of which are on exhibit in the Grand Central Palace and the adjoining Port Elco showroom.

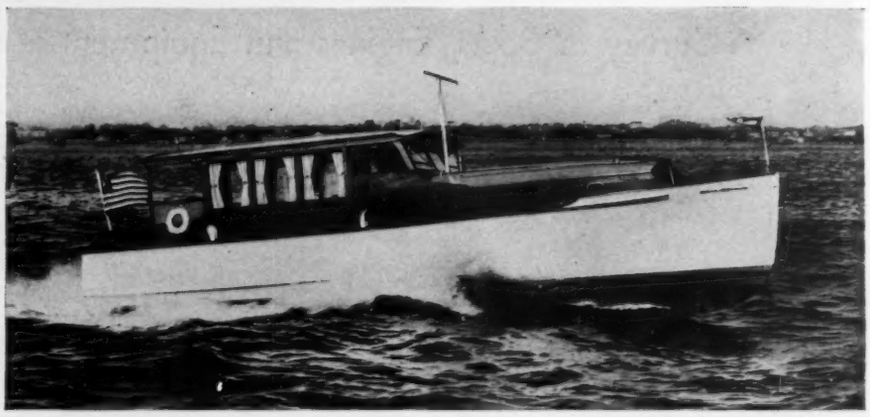
The smallest of the fleet is the compact 24-foot Marinette, with forward and after cockpit and a deck cabin arrangement for sleeping accommodations. This deck cabin was introduced by Elco and is one of the features of the company's numerous models. It makes possible a convertible deck house which is a comfortable lounging saloon by day and sleeping cabin by night. This arrangement allows plenty of room for a spacious galley and toilet room below.

There are two Elco Veedettes, a 30-footer with convertible deck cabin, and a 31-footer with large after cockpit. Both are single cabin models with spacious forward cockpits. In these, and in all other models, a choice of power plant and speeds are available to suit the owner's requirements.

The popular Elco Cruisettes come next in size and include a 32-foot single and double cabin model, a 35-foot single and double cabin model, and three 38-footers in single, double and three-cabin arrangements. The deck cabin arrangement is a feature of most of these models, as well. Side panels may be raised on the deck cabin to give protection in bad weather, and in fair weather screens can be swung into place to make a comfortable outdoor sleeping porch afloat. Forming a part of the deck cabin arrangement are comfortable steering seats which are protected by the windshield forward, window plate on the sides and the deckhouse overhead. From these a full and unobstructed view is given to the helmsman. This does away with the old-fashioned and uncomfortable steering stools and adds to the ease with which the boat can be handled.

For those who like the bridge deck layout Elco offers their 38-foot bridge deck model with spacious forward and after cabins, and a comfortable enclosed deck house with motor tucked neatly away beneath. The Elco 42-foot Motor Yacht and the 50-foot twin screw model are also bridge deck cruisers with spacious cabin accommodations and crew's quarters.

All the Elco models are completely furnished in every detail, including cushions, ropes, anchors and all equipment for starting on a cruise as soon as one steps aboard.



The Wheeler Combination Sedan Playmate is a 38-footer, with accommodations for a party of seven

Wheeler Playmates

SIX Wheeler Playmates, ranging from the 22-foot open fishing skiff up to their new 46-foot Diesel cruiser, present to the showgoer everything that is to be desired in the way of stock cruisers.

The fishing skiff is ruggedly built with lapstrake topsides and is designed for the special requirements of the fisherman. A 4-cylinder Chrysler engine gives her speeds up to 18 m.p.h.

The next model in size is the 26-foot sea skiff, having a short raised deck forward with toilet underneath, two seats under a pilot house and a large open cockpit aft for fishing. This boat is also powered with a Chrysler engine which will drive her 20 m.p.h.

A new 30-foot Standard Cruiser has many new features of interest, including forward cockpit, exceptionally large galley, 7-foot berths and large clothes lockers. Sleeping accommodations are provided for four in the main cabin. A Chrysler reduction geared engine drives this Playmate at 15 m.p.h.

The 38-foot Wheeler Playmate, with twin staterooms, sleeps seven comfortably and is provided with a large toilet and dressing room, and a breakfast nook which may be converted into a three-quarter bed.

The Combination Sedan cruiser, another 38-footer which in the past has proved one of the most popular Playmate models, has returned to the Show with several new features. Instead of having Pullman berths in the sedan cabin, there are two upholstered settees which are comfortable for day-time lounging as well as night sleeping. Another feature is the large galley and combination dressing room and lavatory.

The largest boat in the Wheeler exhibit, and one of the largest cruisers at the Show, is the new 46-foot Diesel cruiser powered with a 100-h.p. Winton Diesel which gives a wide cruising radius at low fuel cost. This new Playmate has accommodations for a party of six and a crew of one.

Three a.c.f. Cruisers

THE American Car and Foundry Company has three fast cruisers on the main floor of the Palace this year, two of which are entirely new models that will attract unusual attention, both by reason of beauty of design and the price range, the latter being exceptionally low for a.c.f. standards.

The largest of the three is a 38-foot Twin Screw Cruiser that will step along at 26 m.p.h. and hold this speed indefinitely, with two 8-cylinder a.c.f. motors. With two 175 h.p. motors the speed is stepped up to above 30 m.p.h. In this model the cabin is amidships with a large open bridge deck just abaft it, from which the boat is controlled. There is a forward and an after cockpit, besides. This is practically the same model as shown last year, with some minor changes.

The two new boats are designed to meet the demand for a smaller, smart looking cruiser at a moderate price, but yet up to the a.c.f. high standard. One of these, known as the Class One Cruiser, is 26 feet long. This boat has a comfortable cabin with cruising accommodations for

four persons, and a large cockpit, protected at the forward end, and with a standing roof. There is also a forward cockpit, with entrance from the cabin.

The smaller model is known as the a.c.f. 24-footer. This boat has the grace and beauty of a runabout and is also equipped with a cabin having a seat on each side 6 ft. 3 in. long, and in the forward end a toilet room. Across the after end of the roomy cockpit is a wide, comfortable, cushioned seat. This boat is offered with optional power; either the Chrysler 4-55 at $1690, or the Gray 6-56 at $1775. With either of these power plants she will attain a speed of about 16 m.p.h. This is an exceedingly handsome craft and is an apt illustration of what can be accomplished by proper designing and competent craftsmanship.

Casey Boats

THE Casey Boat Building Co., of Fairhaven, Mass., has available, at their booth, plans and photographs of their well-known line of auxiliary cruisers and other types of yachts and small commercial craft. In addition, they have on exhibit a special line of marine hardware designed especially for the needs of yachts.

The new a.c.f. Class One cruiser, 26 feet in length, has full cruising accommodations

Dyer Dinks

TWO Dyer Dinks, manufactured by the Anchorage, Inc., of Providence, R. I., are on exhibit; one is the Class A utility sailing dinghy which during the past year has been outstanding in Frostbite regattas and the summer dinghy sailing, and the other a newly designed dinghy for the special racing division.

The general utility characteristics of these little 11-footers have been responsible for their widespread popularity during the past year. In addition to being eligible for the Frostbite races, the Dyer Dink makes a fine tender, rowboat, and outboard motor boat which is light enough to be carried by two people and transported on top of an automobile, and strong enough to carry a load of eight persons.

With the ever-increasing interest in Frostbite racing and the organization of weekly regattas in many of the Atlantic Coast yachting centers during the winter as well as summer, the Dyer Dink makes an ideal boat that can be used the year round for racing as well as for utility purposes.

Penn Yan Boats

THE exhibit of the Penn Yan Boat Co. is made especially interesting by the appearance of a line of Kayaks which have become so popular in Europe and are now being introduced in America. There is a 13-, 16-, and 17-footer and a large two-place 20-footer, all graceful craft designed for speed and ease of handling.

The Play Boats, the latest addition to the big fleet of Penn Yan boats, are of particular interest to the youngsters, both young and old. There is the Indian Chief Canoe, only 8 feet long; the Jack Tar rowboat, 7 feet in length and useful as a light tender as well as a plaything for children; and the Captain Kid sailing dinghy, with sloop rig on an overall length of 7 feet, an ideal boat for youngsters to learn to sail in.

In addition to the Kayaks and Play Boats there is a comprehensive line of rowboats, tenders and outboard boats, including new models, all constructed according to the special Penn Yan process of double planking with canvas laid between the two skins which makes the boats watertight indefinitely.

Sparkman and Stephens

SPARKMAN & Stephens, of 11 East 44th St., New York, besides maintaining a yacht brokerage service and a complete file of plans in their booth, have on exhibit a Class A utility dinghy built from their designs by the Kretzer Boat Works, of City Island. This dinghy is built to meet the requirements of the Frostbite Regattas, and, judging from her lines she should show good speed under sail.

Yachtsmen interested in the lines of Sparkman & Stephens-designed boats which were outstanding in the races last summer will find the blueprints available at the booth, along with numerous half models. Listings of boats for sale and charter together with photographs and specifications will be handy for boat hunters.

Seaman Sea Skiffs

THE Seaman Sea Skiff Works, of Long Branch, N. J., have three models of their well known sea skiffs on exhibition. These three are the standard 16-foot outboard, an 18-foot inboard, and a regulation Frostbite sailing dinghy, all built along sea skiff lines. The 16-foot outboard model is an all-purpose craft, equipped with a centerboard, and may be sailed, rowed, towed, or driven up to 26 miles an hour with a Class C outboard motor. The 18-foot inboard runabout is an economical, fast, safe and dry runabout which will knock out 28 miles an hour with a 49 h.p. Gray Phantom motor. A 16-footer, of the same design and construction, will do better than 30 miles an hour with the same power plant. All these sea skiff models are well known for their ability to

Another new a.c.f. model is this little 24-foot boat. With the grace of a runabout, she has a cabin with two 6-foot transom seats

cope with rough water, and are well built and finished in every particular.

The 11′ 6″ Frostbite dinghy follows the same general line and construction plans, and is completely equipped with sail, spars, oars, rubber fender, etc., and sells at a very reasonable price. A specially low price will be made on the 16-foot outboard model for the period of the Show only.

Dodge Boats

IF THE showgoer is interested in anything in the runabout line he should not fail to visit the exhibit of the Horace E. Dodge Boat & Plane Corporation, for the well known Dodge line includes practically every kind of runabout, from a 16-foot utility model selling at the remarkably low price of $545, to a sumptuous sedan model, 28½ feet long, at a price of $6895. In between are half a score of excellent craft, with various power plants, filling every possible need of anyone looking for any kind of runabout.

Perhaps the most striking newcomer is Model 301, a 16-foot utility model, powered with a 4-cylinder Lycoming motor. This is a lap-strake, open utility launch selling at the remarkably low price of $545, and is a sturdily constructed little craft, with oak frames, keel and stem, and double planked cedar bottom. Seven passengers may easily be accommodated in the large open cockpit, the motor being completely covered with a neat hood. Developing a speed of 25 miles an hour, she is an outstanding value in small craft for the coming season.

Other models in the 1933 Dodge line are as follows:

Model 208, 25½-foot runabout, 165 h.p. straight-8 Lycoming motor.

Model 208-S, 25½-foot sedan, 165 h.p. Lycoming.

Model 210, 28½-foot runabout, 165 h.p. Lycoming.

Model 211, 28½-foot runabout, 325 h.p. Lycoming.

Model 211-S, 28½-foot sedan, 325 h.p. Lycoming.

Old Town Canoes and Boats

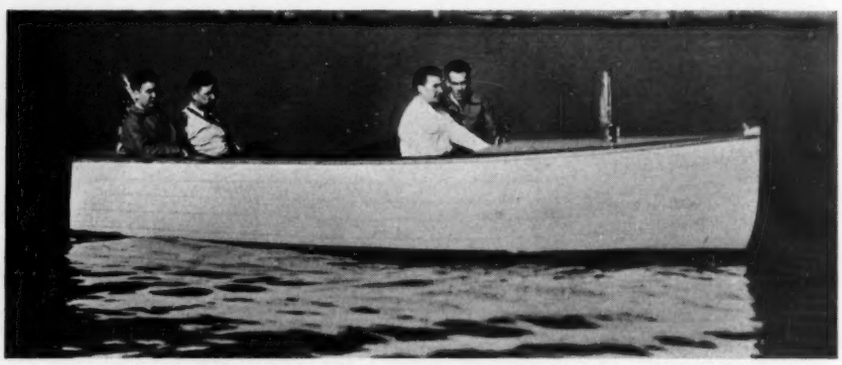
AS USUAL, the Old Town Canoe Company, of Old Town, Maine, has one of the largest and most comprehensive exhibits of canoes, dinghies and outboard hulls to be found in the Show. Various sizes and models of canoes, of the usual canvas-covered construction, are shown, together with a number of dinghies, for both rowing and sailing, of canoe-type construction. Then there are models of lap-strake and flat-bottomed rowing craft of different sizes and models. The exhibit is rounded out by a number of outboard hulls, of various sizes, models and types of construction. Old Town products have long enjoyed an enviable reputation, and the showgoer is certain to find in this exhibit the small boat he is looking for, at the right price, be it row boat, dinghy, canoe, or outboard hull.

Cape Cod Boats

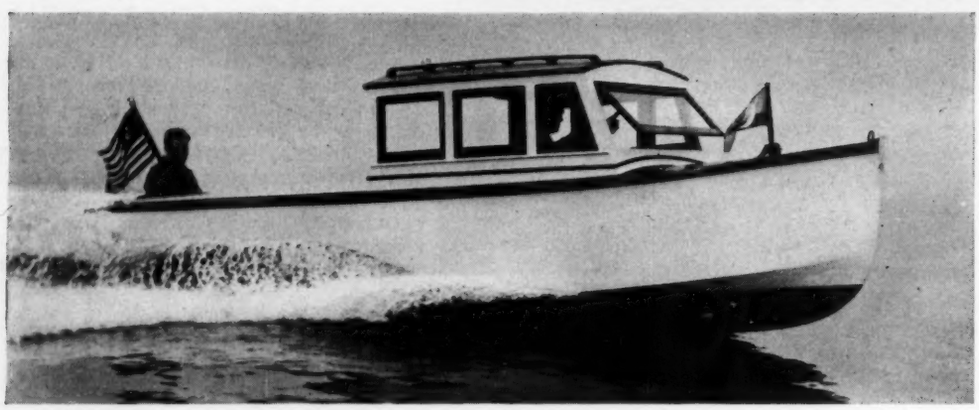
THE Cape Cod Shipbuilding Corporation, of Wareham, Mass., exhibit no less than six craft to showgoers, as follows: 22-foot Down East Fisherman, a cabin boat with Buda motor; 18-foot Baby Knockabout; 15-foot Cape Cod *Nimblet;* 15-foot 6-inch *Snipe;* 14-foot Cape Cod *Kitten,* cat-rigged; and a new model of the Cape Cod *Midget.* Cape Cod boats are found, therefore, to comprise an excellent line of small craft of different sizes, types and rigs, all of which are developments of previous successful craft turned out in past years by this well known concern. While the *Snipe* and *Midget* are the only new additions to the line, numerous rigging changes have been made in the older models, and special Show prices will be the word on all models.

A Stearns Marine Co. Knockabout

THE Stearns Marine Co., of Boston, has a 16-foot jib-headed knockabout on exhibit for those who want a smart-sailing little craft for all-around use at a remarkably low price. She has a large, comfortable cockpit, and is decked over forward. Equipment is complete, including sails, spars, salt water fittings, rudder, tiller, etc.



The new Dodge 16-foot utility runabout steps along at 25 m.p.h. with a 45 h.p. Lycoming motor



Left. A new and popular newcomer to the Show is the Dodge all-purpose model with cabin forward

Model 201 is a 16-foot runabout, completely equipped, strongly built and nicely finished, selling at $795. Model 204 is a 19½-footer, with double cockpit forward, and sells at $1385. The All-Purpose Models 202 and 203 are continued over from last year at $695 and $795, respectively.

A new All-Purpose model, 202-GK, equipped with a permanent cabin, is powered with a 6-cylinder, 66 h.p. Gray motor, and is priced at $1095. Model 207 is a 25-foot runabout constructed of genuine African mahogany, powered with a 115 h.p. straight-8 Lycoming motor, selling at a new low price of $1995. This replaces the 1932 Model 207, which was a 23½-footer, planked with Philippine mahogany, and selling for $2295.

Willis for Equipment

IN ADDITION to their usual fine line of hardware and marine equipment, the E. J. Willis Co. are showing several new items of great interest. Besides new models of Willis alcohol stoves, there is a new model galley range using Blu-Flame Gas, a combination water heater and hot water supply unit, some modernistic nautical cabin lighting fixtures, and the Commodore Folding Yachting Chair.

Nautical Instruments by Kelvin & White

YACHTSMEN always look forward to finding the new and latest improvements in nautical instruments at the Kelvin & White booth, and this year's display is no exception. The spherical compass, which was introduced to the yachting world by Kelvin & White, has been improved and is now available with either an underlighting or overlighting arrangement and an improved azimuth.

The 1933 model of the Kenyon speedometer and speedometer log, which attracted wide interest among yachtsmen last summer and was installed in many of the well-known ocean racers, is on display and is being distributed exclusively by Kelvin & White. A full-size model of the log is set up to demonstrate the operation of the instrument and to illustrate the ease with which it may be installed.

Radio direction finders are gradually capturing the interest of yachtsmen, and to meet this demand Kelvin & White is demonstrating the new yacht model designed and built by the Kaess Co.

Another clever innovation is the new Kelvin & White compass card, graduated in both degrees and points, a most practical improvement.

Texaco Products

THE Texas Company and its well-known and far-flung Texaco Star are prominent in the accessory department of the 1933 Show. Their unique exhibit of oil products, refined to meet the special requirements of marine consumption, is representative of an enterprise functioning in 48 states and in 51 foreign countries spread around the world.

The Texas Company has for years been a specialist in the marine field and has made a study of the requirements of fuels used in marine service, a service in which dependability and performance of lubricants and fuels are of great importance. Besides conducting exhaustive experiments with fuel oil products, Texaco engineers and technical men have kept abreast of the trend in marine engine design and construction in order to make their products meet the requirements of advancing design.

This experience, research and study have played their parts in enabling the Texas Company to offer the motor boat owner the complete line of products which he requires for the efficient operation of his craft. For outboard and inboard owners, there is a new fuel in Texaco Fire-Chief gasoline, first developed according to government specifications for emergency vehicles and recently placed on the retail market at no extra cost. Texaco Fire-Chief gasoline plus ethyl, and two grades of Texaco aviation gasoline are also available. For the Diesel driven yacht there is Texaco Diesel fuel, and for all power plants or mechanical parts there are marine oils graded to suit various engines, and greases made for the varying frictions and pressures encountered in any type of craft. The Texaco exhibit illustrates this wide range of petroleum products with a unique display which includes a constantly flowing cascade of oil over lighted glass steps.

Propellers by International Nickel

PROPELLERS of an entirely new type which, it is claimed, will cut the small boat owner's maintenance charges considerably, are one of the features of the display of The International Nickel Company. Made of Monel Metal, a rust-proof alloy containing almost 70 per cent pure nickel, these propellers are expected to derive advantages not only from the high physical properties of the metal, but from methods of their manufacture as well.

In the manufacture of these wheels the driving face of the blades is machined automatically to a true helical pitch, while the location and area of blades are held to closer tolerances than have usually been found possible in the past.

The tendency of wheels of softer metals, generally used heretofore, to bend or tear when coming into contact with small pieces of driftwood, or even to go out of pitch, as has sometimes been the case when making a sharp turn at high speed, has been overcome by the strength and rigidity of the metal. Experimental wheels used on several government craft have given service as long as two years under conditions which previously required a change of propellers every six or eight weeks.

A Monel Metal propeller shaft approximately 18 feet long and 6 inches in diameter is also on display. This shaft is distinguished by exceptionally high physical properties which give it a tensile strength of 90,000 pounds per square inch and a yield point of 70,000 pounds per square inch. In order to illustrate the close tolerance, rigidity and perfection of the surface of the shafts made of this alloy, a device consisting of a small Monel Metal shaft is shown, driven through a magnetic clutch having an eccentricity gauge in contact with the shaft's surface. Any whipping, lack of straightness, or imperfection will be indicated on the gauge.

A powerful and handsome 26-foot fishing sea skiff built by the Wheeler Shipyard and powered with a Chrysler engine

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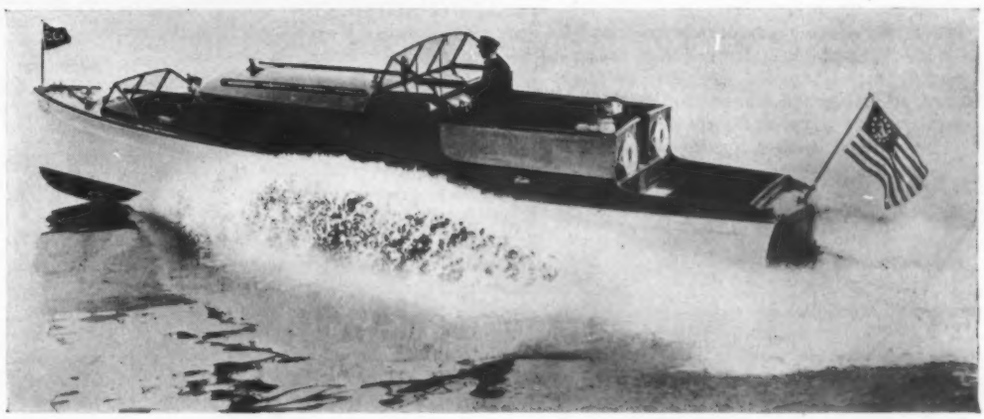


Right. This trim 38-foot twin screw express cruiser is one of a.c.f.'s popular stock models

American Brass Introduces Beryllium Copper

THE feature of the American Brass Company exhibit is the display which introduces to the marine field Beryllium copper and "Electro-Sheet" copper. These

Twenty-eight miles an hour is the speed of this 18-foot Seaman Sea Skiff powered with a Gray Phantom

This electric bateau built by Consolidated is attracting unusual interest at the Show

newly developed alloys possess unusual properties and are attracting much attention.

Beryllium copper, when heat treated, possesses greater tensile strength, fatigue limit and hardness than any other copper alloy heretofore produced commercially. Illustrative of the exceptional physical properties of this alloy are a Beryllium copper spring which withstood 6,000,000 flexes without failure, and a sheet, rolled 1½ numbers hard, which, after heat treatment, developed a tensile strength of 196,000 p.s.i. and a Brinell hardness of approximately 400.

Anaconda "Electro-Sheet" is the result of long research devoted to perfecting an economical method of producing thin copper sheets in long lengths. "Electro-Sheet" is available in weights of 1 to 8 ounces per square foot, and in standard widths of 30 and 40 inches. This thin copper sheeting has numerous marine uses, as it may be used for roofings, waterproofing, pipe wrapping, etc., and because it is readily bonded to canvas, insulating board, wood, metal and paper.

The American Brass exhibit also includes Tobin bronze shafts and plates, marine castings, nickel silver, ambrac mouldings, angles, sail track, rub rails, cut-waters and numerous marine fittings, as well as an interesting display of Everdur nails, screws and bolts for boat fastenings.

New Columbian Bronze Products

IN THE attractive exhibit of propellers and other marine fittings manufactured by the Columbian Bronze Corporation, of Freeport, Long Island, the showgoer will find two new products. There is a new bronze rotary type of circulating pump, designed especially for use as a bilge pump. Extra large bearings are provided and the vanes are constructed of Aqualite, which insures long life and silent operation. With this type of vane the pump will pass small particles of sand and grit, which invariably accompany bilge water, without undergoing appreciable wear.

The Columbian organization is also presenting, for the first time, a new type of reverse gear. The feature of the gear is a positive lock to keep the gear in the ahead position, thereby eliminating slip, a welcome improvement especially for those who have experienced slipping clutches. Vibration in the clutch is reduced to a minimum by balanced parts all supported and turning on extra heavy ball-bearings. Another feature is an outside adjustment for the reverse gear, a long felt need.

Seventy-two propellers of various types and sizes are cleverly displayed on a stand which makes for ease of examination and inspection by boatmen.

International Paints

ON THE third floor, the International Paint Co., Inc., makers of Holzapfels compositions which are used on the bottoms of boats the world over, have a complete exhibit of their yacht paints and compositions, together with numerous panels and several models coated with International paints. To illustrate the world-wide acceptance of their yacht paints, twelve paint containers bearing the labels of twelve associated foreign companies are on exhibit. Boatmen looking for their supply of spring paint will find, in this booth, time-tested compositions to meet all requirements.

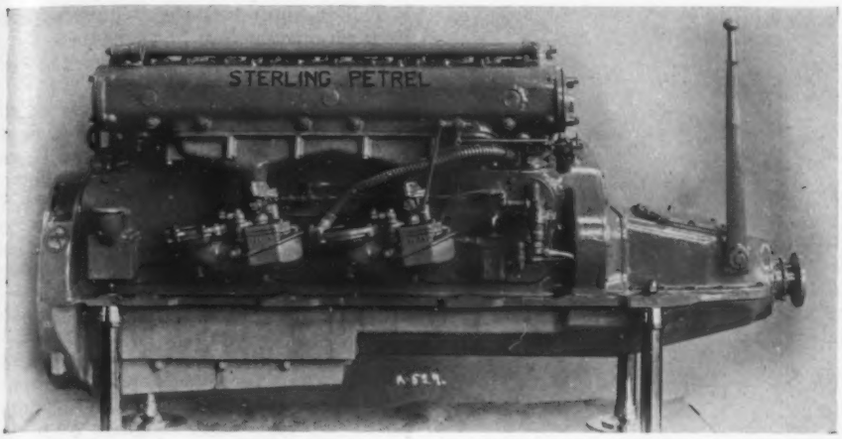
"Korodless" Rigging

YACHTSMEN who are looking for wire rigging which will not corrode or rust for years and years should visit the booth of the Hazard Wire Rope Co., where they are showing samples of "Korodless" wire rope of chrome nickel stainless steel. It is said to combat all manner of corrosion, to be easier to splice and handle, to be more flexible, etc. It is pre-formed, thus eliminating internal stress and fatigue, and is far stronger than ordinary galvanized cast steel wire.

Ritchie Nautical Instruments

IN THE Ritchie exhibit of nautical instruments the showgoer will find everything which the navigator's heart desires, a new underlit globe compass, sextants, course protractors, nautical books, etc. Of special interest is a radio compass direction finder which is in operation and which is so demonstrated that the novice can readily understand its operation.

Above. The Dyer dink, a Frostbiter and utility tender. Left. A new dinghy by the Seaman Boat Works



This handsome Sterling Petrel delivers 200 h.p. at 2000 r.p.m.

Sterling Engines and a New Angle Drive

SHOWGOERS always look for the handsome Sterling exhibit and they will find this year's attractive display of marine engines no exception. And in addition, the Sterling Engine Company is introducing, for the first time, a new angle drive which is attracting wide interest.

The angle drive is designed to permit of stern engine installation and at the same time it gives 1¼ engine speed reduction, thus acting as a reduction gear. The advantages of an angle drive are many. It eliminates long shafts and their necessary bearings, and long exhaust pipes with the attendant difficulty of running these under floors and around berths; it permits of compact motor installation in the stern of the boat which leaves more space for cabin accommodations; and it increases boat speed due to the reduction gearing. The gears are cut for a 12 degree angle and they are similar in design to the latest development in rear axle automobile gears. A specially designed universal coupling comes with the gear and two universal couplings may be used with it if desired.

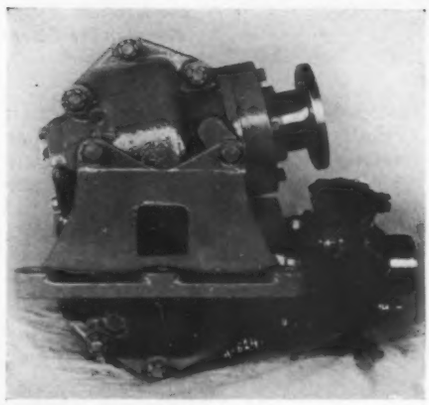
The new angle drive weighs 221 pounds and may be used on motors delivering torques up to 600 foot pounds. In the case of the Sterling engines it may be used on as powerful a motor as the 225 h.p. Petrel, which operates at 2150 r.p.m. Showgoers interested in power plants should not miss investigating the possibilities of this valuable addition to marine engine design.

The Sterling engine exhibit consists of the well-known Petrels, Dolphins and Vikings, which in general are similar to the past models with the exception of minor improvements.

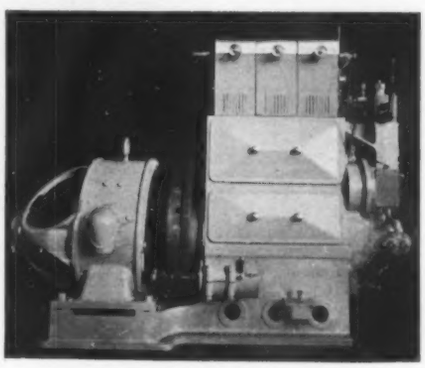
There are two 6-cylinder Petrel models, one delivering 200 h.p. at 2000 r.p.m., and the other a 225 h.p. engine turning at 2150 r.p.m., designed for runabouts only.

Three Sterling Dolphins are on exhibition, a 6-cylinder model rating 225 h.p. at 1550 r.p.m., a high-speed 6-cylinder Dolphin Special which delivers 300 h.p. at 2000 r.p.m., and the 8-cylinder model rated at 300 h.p. at 1550 r.p.m. These models, like all of the Sterling engines, have the usual well known Sterling characteristics, which include counter weighted crankshafts, oil coolers and filters, rolled steel forged flywheels, and double carburetors with integral drip pans and flame arresters.

The Viking "6" and "8" are exhibited along with one of the 6-cylinder Coast Guard models, which deliver 225 h.p. at 1200 r.p.m.



Above. The new Sterling angle drive. Below. A 15 kw. Winton generator



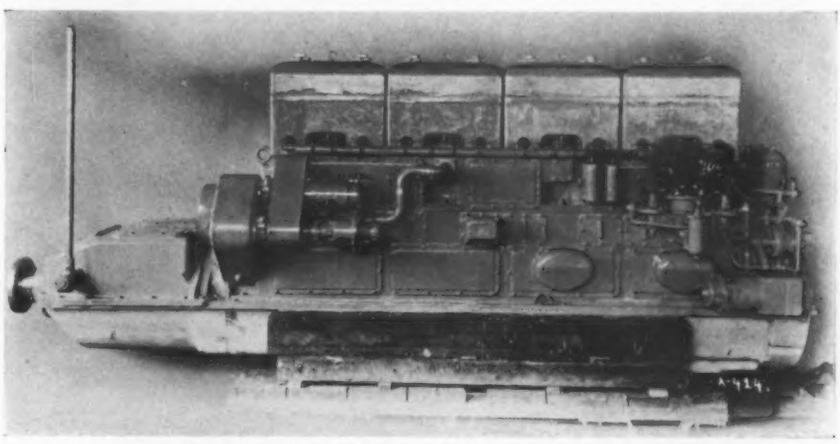
Winton's New All Steel Diesel

THE feature of the Winton exhibit of handsome engines and generating sets which is attracting unusual interest is a new 8-cylinder 500-h.p. Diesel engine having a total weight of only about 10,000 pounds. This marked reduction in weight is accomplished by the use of steel instead of cast iron in the construction of this motor, which represents a distinct advance in lightweight Diesel engine design. Compact and clean cut, this new motor has eight cylinders in straight line which have a bore and stroke of 8″ x 10″.

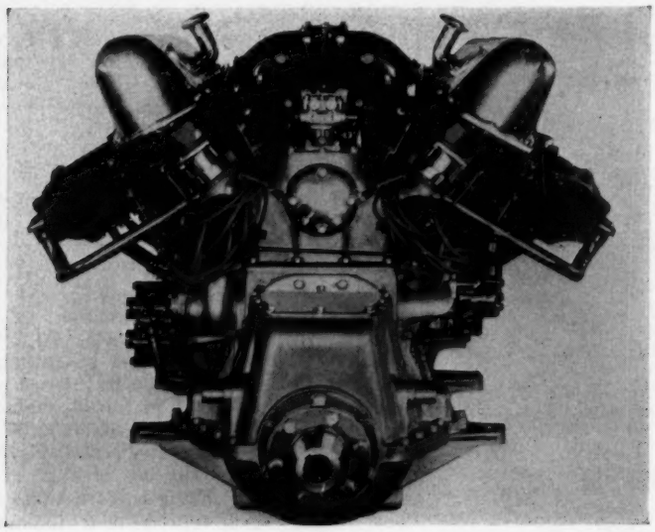
Besides this new engine which Winton is introducing at the Show for the first time, their products include a full line of engines ranging in horsepower from 100 to 1500. There is the well-known Winton 4-cylinder Diesel rated at 100 h.p. which is steadily finding its place in many medium-sized cruisers whose owners have become Diesel-minded. This engine may also be seen installed in the new 46-foot Wheeler "Playmate" at the Show, which will give the yachtsman a good idea of the simplicity of its installation and control. For those who are interested in more power and auxiliary generating sets Winton has a complete line on display in this exhibit on the main floor. In charge will be George Codrington, President of the Winton Engine Corporation.

Schebler Carburetors

A CARBURETOR for every type of marine service is shown by the Schebler Carburetor Co., whose products have been prominent in marine circles for over 25 years. For the first time, Schebler is showing a down draft carburetor, designed according to marine specifications.



A big Sterling Viking "eight" seen in the attractive Sterling exhibit



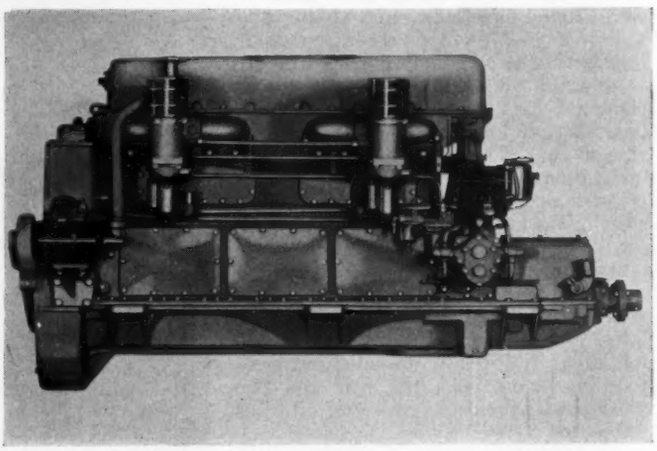
Rear end view of the Kermath V-type 12-cylinder "Sea-Raider"

Kermath Motors

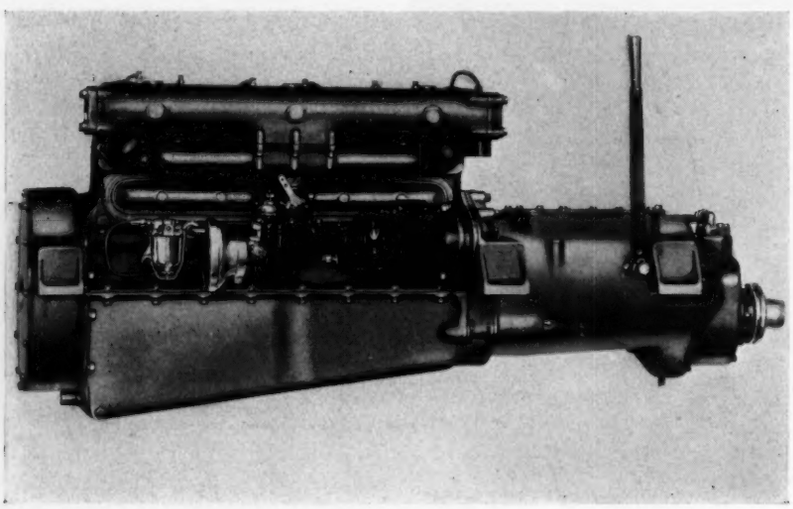
THE Kermath line of motors for 1933, produced by the Kermath Mfg. Co., of Detroit, includes two V-type 12-cylinder marine engines, 16 6-cylinder high speed and medium duty motors, seven 4-cylinder models and three models of the 2-cylinder type. It would be difficult to find a more comprehensive line of the highest grade of marine motors supplying almost every need, whether the installation is for a runabout, cruiser, speed craft, auxiliary, work boat or fishing vessel. They range from 4 to 450 h.p., and have an enviable reputation for reliability, economy, all-round efficiency and the highest caliber of design and workmanship.

Two notably rugged models stand out in strong relief. The 150-200 h.p. Sea-Farer and the 225 h.p. Sea-Wolf have been perfected over a period of five years until they have reached new pinnacles of all-round performance and desirability. Stamina and smoothness stand out in both models, which have been adopted as standard power plants in a majority of the highest grade stock cruisers.

The Sea-Raider 12 was originally a custom-built V-type engine, but is now available at a much lower price than formerly. It is of especial interest to owners of de luxe custom craft, as it is extremely light for its horsepower, and is one of the most compact, durable and remarkably smooth motors in the marine field. In design, materials and accessories it leaves nothing to be desired.



The clean and compact Kermath 6-cylinder "Sea-Wolf," developing 225 h.p.



The Kermath-Farr Six-102 with built-in reduction gear

The medium and heavy duty models need no introduction to yachtsmen, having proven their sterling qualities in the hands of users for many years.

In 1931 Kermath introduced a new line of high grade, low priced marine engines which gained instant popularity. These are known as the Kermath-Farr motors, and come in both medium and high speed models ranging in power from 25 h.p. to 102 h.p. Each of the high speed motors may be specified with two different ratios of built-in reduction gears, making them adaptable for a variety of boats. They come equipped with all modern accessories, are decidedly rugged, compact and efficient, besides being powerful and economical in operation. Both medium duty and high speed engines come in either 4- or 6-cylinder models at reduced prices which make them unusually attractive creations for the man who appreciates a quality product which will produce highly satisfactory results from every angle.

Gray Motors

AS USUAL, the exhibit of the Gray Marine Motor Co., of Detroit, contains an extremely wide and diversified line of marine motors for all types of cruisers, runabouts, work boats and auxiliaries. In addition to the well known line of four, six, and eight cylinder models popularized in standardized craft in years past, there are two newcomers.

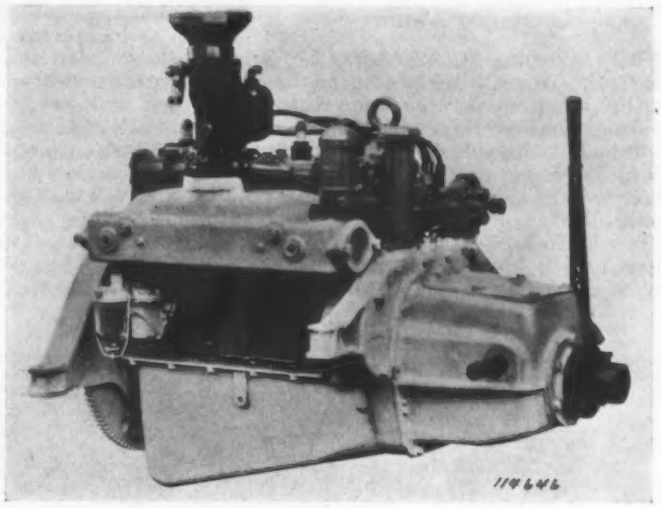
Last year, the Gray Blue Streak 113 cu. in. motor drove the Century Thunderbolt to 12 victories in 14 starts in the 125 cu. in. hydroplane class. The 1933 Blue Streak will have its displacement raised to exactly 125 cu. in., with a corresponding increase in power, and will be both short and light, and capable of sustained operation at 4000 r.p.m. The same motor will also be produced in two other sizes — 100 cu. in. for Class A competition, and 152 cu. in. for Class C.

This exhibit also includes a new "Six," known as Model 340. This is a heavy duty motor of 80 h.p. for cruisers and workboats. Among the numerous new features to be found on this motor is an accurately balanced 7-bearing crankshaft, with duplicate flywheels on each end.

The highly successful Gray V-Drive is

also shown. After three full years of service in every kind of boat it has not been possible for Gray engineers to improve upon the original design or construction of this unit, even though it is used on engines ranging from 50 to 200 h.p.

Many speed tests have placed different Gray models in the first rank. Their reliability and ruggedness have been amply proven in all kinds of service in the hands of thousands of users the world over. Their economy was again proven last summer when the Bayside-Block Island Auxiliary Race, and the Huntington-Cornfield Auxiliary Race, were both won with the aid of Gray 4-30 motors. The winning of these races requires the utmost mileage per gallon of gas, rather than power or speed. The latter are qualities which have been demonstrated by many Grays over a period of years.



The new 125-cubic-inch class Gray "Blue Streak"

Scripps Motors

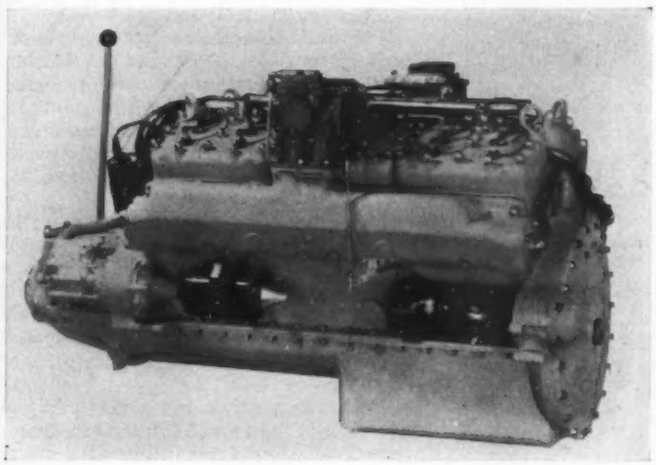
ENTERING the 27th year of service to motor boatmen, the Scripps Motor Co., of Detroit, is showing their excellent line of marine motors which provides power for any type of boat from a 15-foot tender to a 90-foot cruiser. The majority of these are models which have been tried and proven in the hands of users over a period of years, from the well known F-4, of 40 h.p., up to the Models 202–203, of 200 h.p. Then there will also be an improved "150" series, the successful 1932 offering. The really striking newcomer to the Scripps line, however, is the V-12, the most powerful motor which Scripps turns out.

The V-12 is unique, inasmuch as it is the only 12-cylinder marine motor using L-type cylinders. Careful design has made possible the use of this well-tried and thoroughly proven construction in a V-12 motor, which produces a very powerful and compact power plant, using the fewest number of moving parts. It is available in two types — a high speed model developing 330 h.p. at 3000 r.p.m., and a medium duty engine of 225 h.p. at 1800 r.p.m. The piston displacement is 894 cu. in. It is also available in both right and left hand rotation and construction for twin screw installations, and is suitable for almost any type of boat from the speedy 25-foot runabout up to the 90-foot cruiser.

Neatness and compactness are distinctive features. The maximum height is only 23¾ inches, over all length only 58 inches, and width but 33⅛ inches. Accessibility of all parts, and correct placement of all accessories, permitting their removal without disturbing other parts of the engine, are features which will be appreciated by motor-wise yachtsmen. The weights are remarkably low, being only 1500 pounds for the high speed model, and 1700 pounds for the medium speed motor. The usual Scripps excellence of design, materials and workmanship is naturally found in the new V-12.

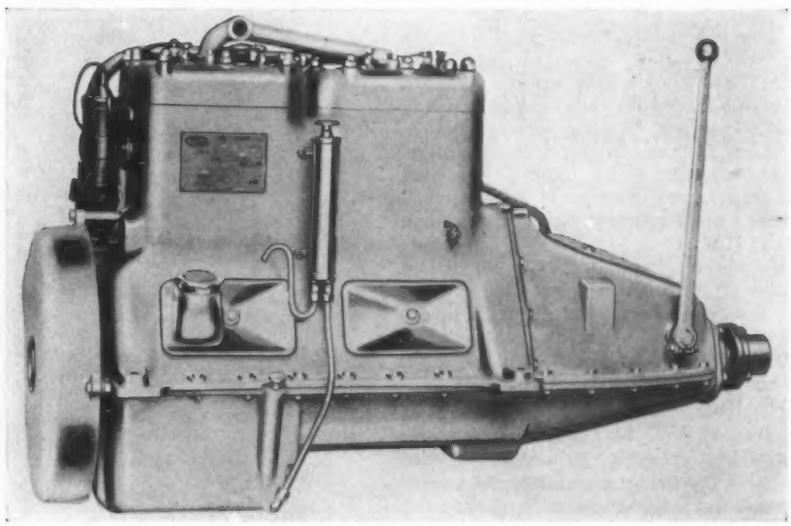
Other tried and true Scripps models are:

Models 202–203, high speed, 200 h.p. at 2300 r.p.m.
Models 172–173, high speed, 175 h.p. at 2300 r.p.m.
Models 162–163, high speed, 150 h.p. at 2300 r.p.m.
Model 124, high speed, 135 h.p. at 3300 r.p.m.
Models 204–205, medium speed, 155 h.p. at 1800 r.p.m.
Models 174–175, medium speed, 140 h.p. at 1800 r.p.m.
Models 164–165, medium speed, 125 h.p. at 1800 r.p.m.
Model F-6, medium speed, 80 h.p. at 2000.
Model F-4, medium speed, 40 h.p. at 1800 r.p.m.



This new Scripps V-12 develops 330 h.p. at 3000 r.p.m.

Below. The latest model of the famous 40 h.p. Scripps F-4



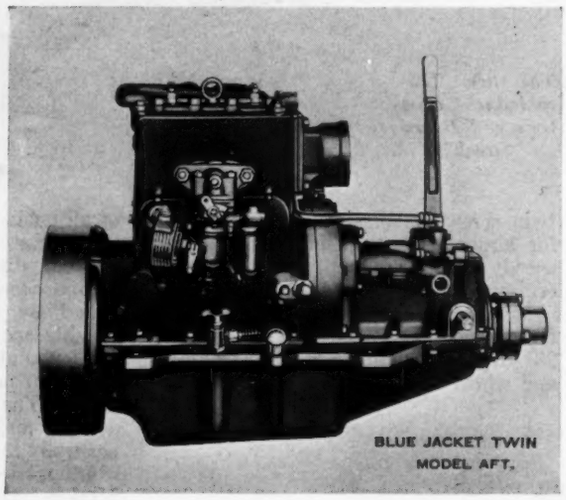
Lycoming Motors

THE Lycoming Manufacturing Co. is continuing, with refinements, its entire line of advanced type marine engines at reduced prices. These motors, of four, eight, and twelve cylinders, ranging from 35 to 325 horsepower, provide a power plant for a great variety of power driven craft.

Popular in the small, high speed runabout field is Model UAB, a 4-cylinder engine developing 45 h.p. at 3400 r.p.m.

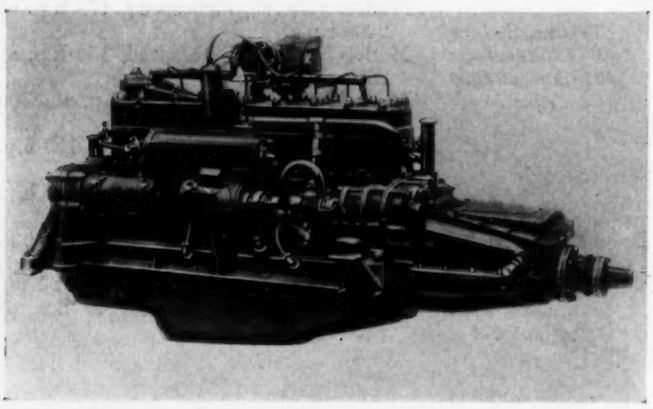
Lycoming motors have long been well known as high grade engines developed along the soundest and latest engineering lines, with the 1933 product refined and improved, and sold at a most attractive figure. Each of these motors is distinctly a motor boat engine, designed and built solely for marine use, and all are backed by Lycoming's wide and diversified experience in building engines for use in land, air and water transportation. The motors on display are beautifully finished and nicely mounted to facilitate inspection.

A 1933 addition to the Universal line, the new Blue Jacket Twin, rated from 5 to 10 h.p. and equipped with electric starter



BLUE JACKET TWIN MODEL AFT.

Below. The Lycoming 125 h.p. straight-eight marine engine

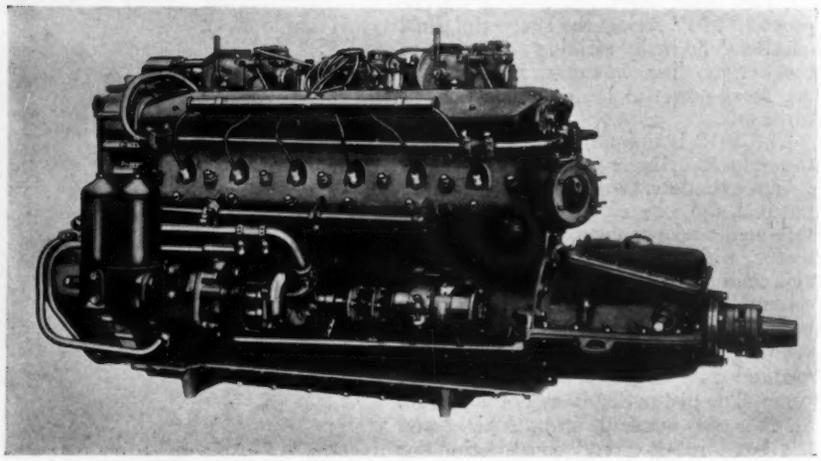


This big 12-cylinder V-type Lycoming develops 300 h.p.

This motor holds the world's inboard runabout record for one mile in Class A, of 34.108 m.p.h. It has a piston displacement of 119 cu. in., and is a simple, rugged machine giving unusually reliable and satisfactory service. It is also available as a medium duty, 35 h.p. machine in Model UAC.

Models UC and UE are 8-cylinder motors, for use in fast runabouts, light and heavy cruisers, etc. Model UC develops 125 h.p. at 3200 r.p.m., while Model UE develops 160 h.p. at 3200 r.p.m.

The 12-cylinder Model UF, developing 325 h.p. at 2500 r.p.m., is recognized as one of the quietest, smoothest engines available for use in runabouts, fast commuters, and large cruisers.



A New Addition to the Universal Line

A NEW addition to the Universal line of engines has come to the Show for the first time and is attracting the interest of yachtsmen looking for a small-powered, 2-cylinder engine which is equipped with electric starter. This new Blue Jacket Twin develops 5 to 10 h.p. and should make an ideal power plant for small auxiliaries, open boats and fishing boats.

The popular Universal Flexifour engine is on exhibit and may be secured in three different models — with impulse magneto for use in boats where electric starting is not required; with electric starter and battery ignition; or with reduction gears in 1¾ to 1, 2¼ to 1, and 3 to 1 ratios. All of the Flexifour series develop 25 h.p. with a 99-cu.-in. displacement.

For high speed runabouts and racing boats in the 125-cu.-in. class Universal offers its Blue Jacket Four which develops 50 h.p. at 4000 r.p.m. The Blue Jacket is made in 6-cylinder models as well. For runabouts there is model ADS, a high speed engine, developing 70 h.p. at 4000 r.p.m. For small cruisers there is the 40 h.p. Blue Jacket Six. And for heavier small cruisers or auxiliaries, there is a reduction gear model available in ratios of 1¾ to 1, 2¼ to 1, and 3¼ to 1.

Universal also offers a larger 6-cylinder engine known as the Cruiser Six which is built in three models — an 88-h.p. engine turning up 3000 r.p.m., a 60-h.p. engine running at 2000 r.p.m., and a 60-h.p. reduction gear model available with reduction ratios of 1¾ to 1, 2¼ to 1, and 3¼ to 1.

Largest of the Universal line is the Cruiser Eight, a handsome straight-eight engine built in three models. There is a 115-h.p. engine which turns up to 3000 r.p.m., an 80-h.p. model running at 2000 r.p.m., and an 80-h.p. reduction gear engine built with the same gear ratios as the Cruiser Six.

Both the Cruiser Six and Eight are available in right and left hand engines for twin installations, and Universal is inaugurating a new policy by quoting lower prices on engines sold in pairs.

Chrysler Rubber-Mounted Engines

THE Amplex Manufacturing Co., marine division of the Chrysler Corporation, comes again to the Show with an interesting exhibit featuring their rubber engine mountings and demonstrating the simplicity with which their engines may be installed by exhibiting them mounted on wooden stringers exactly as they would be mounted in hulls.

A Chrysler Four is suspended from a tripod by a rubber engine mounting to illustrate visibly the strength of the surface adhesion between the rubber and steel which is made use of in their patented engine mountings. This is a unique and convincing exhibit of what might be termed suspended power. The Four is a compact unit, rated at 55 h.p. at 2800 r.p.m., and weighing 550 pounds.

There is a cut-out display of the 6-cylinder Imperial, showing all the working parts in operation, and also a cut-out reduction gear on another Imperial model to demonstrate the mechanical action of this gearing system.

Largest engine of the Chrysler marine line is the Majestic, an 8-cylinder engine, with down-draft carburetor, rated at 150 h.p. at 3200 r.p.m. This model is also exhibited with a 2.03 to 1 reduction gear, rating 145 h.p. at 1400 r.p.m.

The 6-cylinder Imperial, without reduction gear, is rated at 106 to 125 h.p. at 2800 to 3200 r.p.m., and the 2.03 to 1 reduction gear model has a rating of 106 h.p. at 1400 r.p.m.

Another 6-cylinder Chrysler model on exhibit is the Royal, a smaller motor than the Imperial and rated at 82 h.p. at 2800 r.p.m.

The Chrysler Crown engine, lightest of the sixes, is exhibited with and without reduction gear. The straight drive engine has a rating of 80 h.p. at 3200 r.p.m. and weighs 625 pounds. The reduction geared model has a 2.56 to 1 reduction gear, rates 75 h.p. at 1100 r.p.m., and weighs 750 pounds.

All the Chrysler engines on exhibit are equipped with rubber mountings, an exclusive Chrysler feature which is convincingly demonstrated by the 4-cylinder model suspended from the tripod.

Palmer Motors

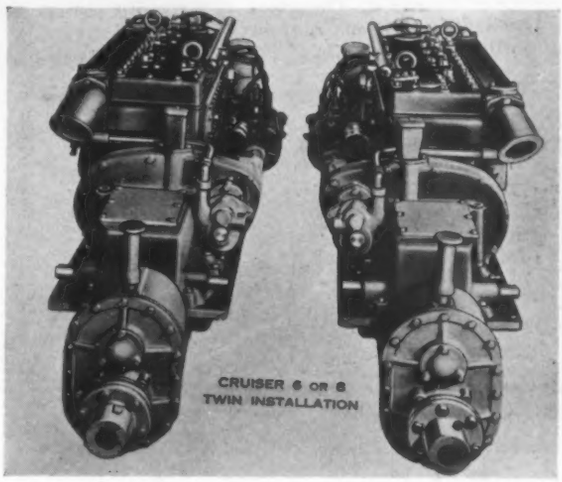
AS USUAL, Palmer Bros., of Cos Cob, Conn., have a comprehensive exhibit of their well known motors, ranging in size from Model YT1, a little 2-h.p. single cylinder kicker, up to big sixes of 150 h.p. Two Model B Ford conversions will be there, too, besides the well known 4-cylinder models, such as the Pal, Little Huskie, etc. A new "startifying" device, an air gas selector valve, should prove of great interest.

The Red Wing Thorobreds

SHOWGOERS interested in a new, compact engine for auxiliaries, small cruisers or runabouts will find a fine little motor with a lot of power in the Red Wing exhibit. It is a 4-cylinder engine, only 41 inches overall, and develops 25 to 45 h.p. at 1000 to 2200 r.p.m. The "Arrowhead," as it is named, is equipped complete with reverse gear and electric starter.

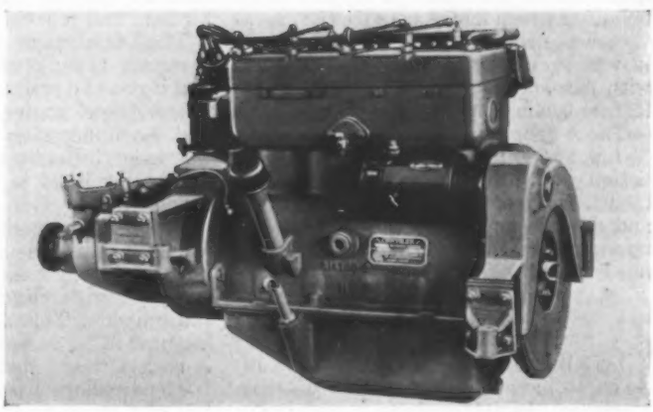
Another new addition to the well known line of Red Wing Thorobreds is the "Arrow Junior," a special, high-speed engine developing 90 h.p. at 3200 r.p.m. This is a 6-cylinder engine, having a special head with full power combustion chambers and overhead intake valves, which is designed for the faster type of runabouts.

This exhibit of the Red Wing Motor Co. is in charge of the Verrier Eddy Co. and includes a complete line of Thorobreds from 4 to 150 h.p. as well as the two new 1933 models described above.

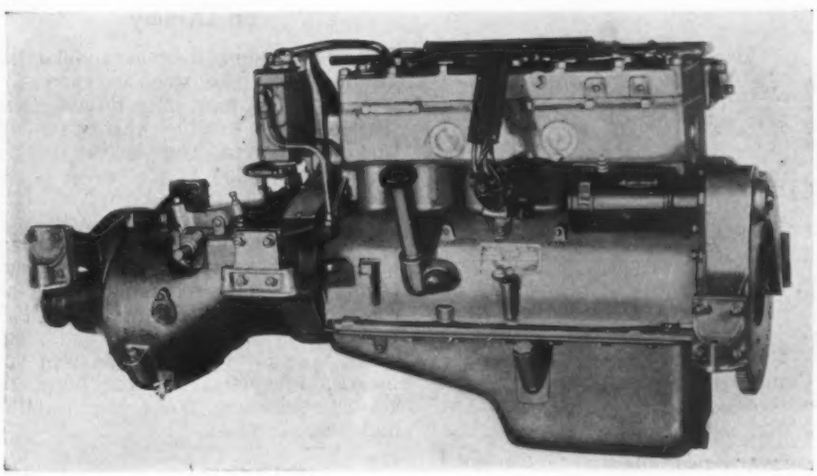


Universal offers both 6- and 8-cylinder mated engines for twin installations

Below. The 55-h.p. Chrysler "Four" with rubber mountings



The 6-cylinder 80 h.p. Chrysler Crown, with reduction gear



Murray and Tregurtha Oil Engines

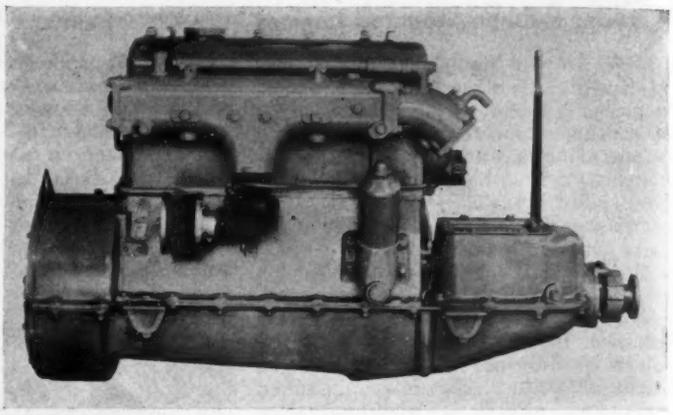
THREE handsome Murray & Tregurtha engines are exhibited on the mezzanine floor, including one 325-h.p., high-speed gasoline engine, and a pair of medium duty fuel oil engines employing

the new Murray and Tregurtha oil burning principle.

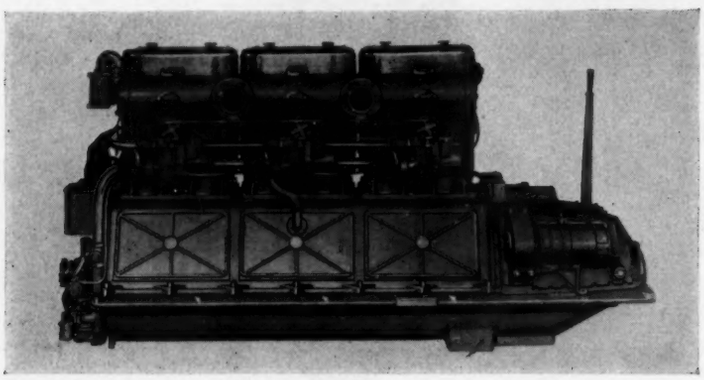
The gasoline engine, rated at 325 h.p. at a speed of 1650 r.p.m., is a fine engine for high speed cruisers and commuters. However, the oil engines are attracting the greatest interest, because they have proved, in the past few years, that this new principle of burning oil in an engine working on the ordinary gasoline cycle is not only practical but has reached a stage of wide usage in yachts, and commercial craft as well.

The largest of the two fuel oil engines has 6 cylinders and is rated from 110 to 140 h.p. at 700 to 1100 r.p.m. The motor is similar in every respect to the Murray and Tregurtha medium duty gasoline engines, with the addition of the fuel oil nebulizer which makes possible the operation of the engine with fuel oil. Formerly it was necessary to start these engines with gasoline, but now that undesirable feature is eliminated.

This Hall-Scott Fisher Jr. model is in the 50 h.p. class



Below. This engine, built by Murray & Tregurtha, starts and runs on oil



The 4-cylinder engine, rated at 65 to 85 h.p. at 650 to 1000 r.p.m., is similar in design and principle to the 6-cylinder model. Both of these motors are simple and durable in construction and require no more attention than the regular gasoline engine.

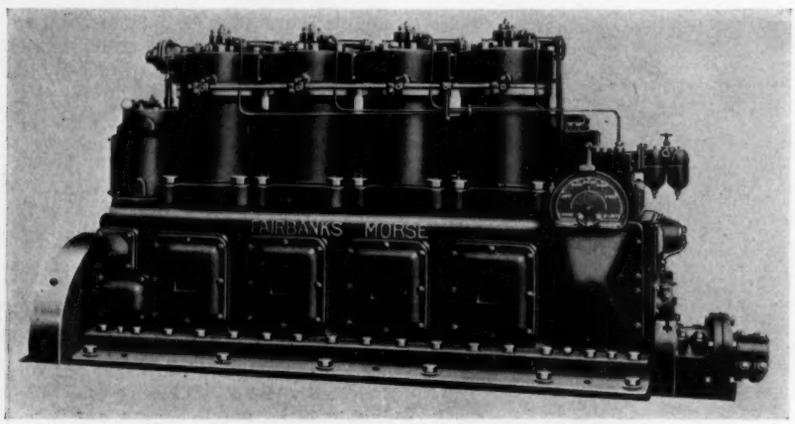
Fairbanks Morse

FAIRBANKS, Morse & Co., of Chicago, have on display one of their 4-cylinder Diesel engines, a 4-cylinder gasoline engine and a 2-cylinder Diesel-driven air compressor and bilge pump unit, all ruggedly built engines designed for hard and reliable service.

The Diesel engine is built in the direct reversing type, operates at 400 r.p.m., and is one of a series of similar Fairbanks Morse Diesel engines built in 3-, 4-, 5-, and 6-cylinder sizes. All the engines in this series, including the one at the Show, can be furnished in the direct reversing type or with built-in reverse gear.

The gasoline engine in the Fairbanks Morse exhibit is a 4-cylinder heavy duty motor operating at 650 r.p.m. and equipped with clutch and reverse gear transmission. This model is also manufactured in 2-, 3-, 5-, and 6-cylinder units in both port and starboard models.

The auxiliary Diesel set is direct connected to a 23-cu.-ft. air compressor and a 140-gal.-per-min. bilge pump, and is coupled by a flexible drive to a 6 kw., 125-volt generator. Another auxiliary motor-driven oil and water pump is being exhibited as well.



The 4-cylinder Fairbanks Morse direct reversing Diesel

A New Small Motor by Hall-Scott

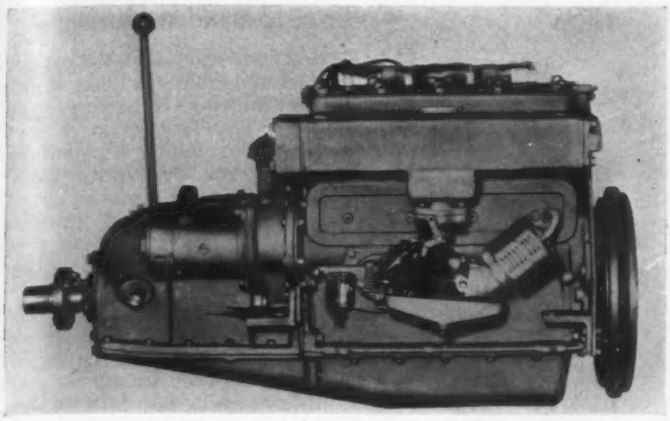
THE Hall-Scott Motor Car Company exhibit at the Show comprises one Right Hand and one Left Hand Invader engine, equipped with reduction gear; one each of the 250 h.p. and 180 h.p. Invader models; one Navigator II model and one Fisher Jr. Direct Drive motor.

The last named is a new direct drive marine engine in the popular 50 h.p. class, offered at the low price of $850 f.o.b. New York.

Designed and developed for small cruisers, commercial fishermen, and as an auxiliary power plant for sailing yachts, the Fisher Jr. is a powerful, dependable, economical engine. Its heavy, cast iron construction makes it especially suited to salt water service. All parts are easily accessible. Through carburetion and hotspot manifolding, fuel consumption has been reduced to a minimum. Equipment is standard. This motor is available in three models: 53.5 h.p. at 1800 r.p.m.; medium duty, 48 h.p., at 1400 r.p.m.; low compression, heavy duty unit, 38.5 h.p. at 1000 r.p.m. The dimensions are: l.o.a. 62½", width 24¼".

Balsa Wood Articles on Display

THE astonishing lightness and flotation qualities of balsa wood are known to a few people, but most of us do not realize the many uses to which this remarkable wood may be put. The place to find out about balsa wood is the booth of the Balsa Wood Co., of Brooklyn, N. Y. Here will be displayed numerous articles of decided interest, all of balsa wood, which are in many ways similar to articles made of other substances. The following are some of them: Swimming safety belt, combination swimming raft and motor sailer, take-down sailing catamaran, surf boards, aquaplane, mooring buoy, life saving equipment, floats and novelties, and rescue torpedo.



Compact and rugged is this 4-cylinder Buda gasoline engine

The new Buda 6-cylinder Diesel (below) develops 125 h.p.

New Buda Diesels and Gasoline Motors

THE Buda Company's exhibit is the most comprehensive ever made by these manufacturers of marine engines. It will show a complete line of gasoline engines from 56 h.p. up to 122 h.p., both with and without reduction gear. In addition there is exhibited model DM6–17 Diesel engine, 125 h.p., which has been in production since last spring and which has made a fine name for itself in boats in which it has been installed, due to its flexibility, its quiet operation, its lack of smoke and smell, and its accessibility.

A smaller Diesel engine which will make a popular appeal, and which will be within the reach of the small boat owner as far as weight and price are concerned, is a new model 6–DM–415, with 4″ bore and 5½″ stroke, and which will develop 85 h.p. The weight of this motor is approximately 17 pounds per horse power. The engine is of the same type as model DM6–17, is electrically started, with everything supplied necessary for running with the exception of the propeller shaft and propeller. The engine can be supplied both with and without reduction gear.

In addition to the propulsion engine of the small size, the Buda Co. also have on exhibit a complete generating set which can be obtained in from 20 to 40 K.W. This is equipped with the 6–DM–415 engine, 4″ x 5½″, and makes an ideal set for various types of boats.

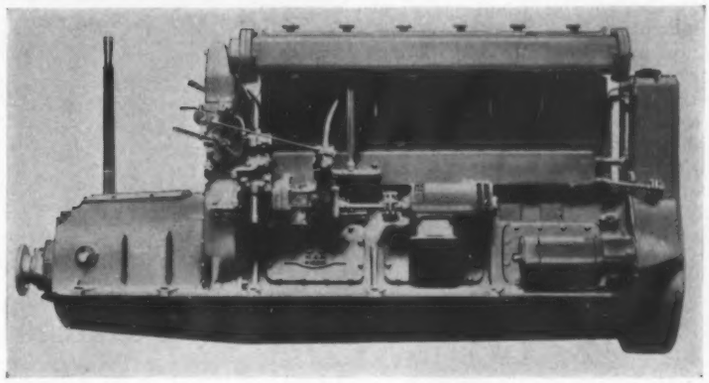
Lux Systems for Fire Protection

WALTER KIDDE & COMPANY are exhibiting a complete line of Lux fire extinguishing equipment at Booths 85 and 86. There is a local control system of the type which is installed on hundreds of small cruisers and auxiliaries, and a remote control system such as is used by larger yachts, the U. S. Navy, the Coast Guard and the Lighthouse Service. A Fishermen's type system is also shown which is specially designed for tugs, small tankers, fishing boats and all kinds of small commercial craft. One of the interesting features of the exhibit is a machine which demonstrates how Lux gas puts out fire.

New Johnson Outboards

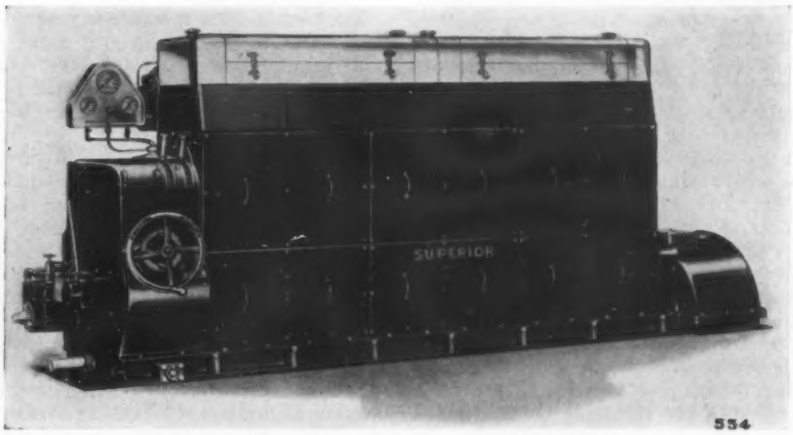
FOR over ten years Johnson outboard motors have been in the front rank of the finest and most up-to-date outboards built here or abroad. Many new refinements and improvements have frequently appeared on Johnsons before, such as full pivot steering, shock absorber drive, pressure-vacuum cooling, rotary valve intake, release charger, automatic back pressure release, alternate firing, water-cooled under-water exhaust, and so on. And now we see at the Show a new line of improved Johnsons — Series 65 — with many new features and prices which are a revelation when compared to the prices of a few years ago.

Among the new features are "synchro-control," where spark and throttle controls are inter-connected, giving perfect co-ordination between throttle and spark with the movement of but one lever; Taper-Tube Silencer, which leads the gallon of lubricating oil consumption. Engine speed is governed by a vertical, centrifugal, gear-driven governor enclosed in a dust-proof, oil-proof case. Superior Diesels represent the product of an organization which has devoted its entire attention to the building of gasoline and Diesel motors for more than 45 years. They are produced in one of the largest and most modern plants in this country. In design, material, and workmanship, they will stand comparison with the finest motors built.



The Superior Diesels

THE Superior Engine Co., of Springfield, Ohio, who turn out a complete line of Diesels from 50 to 800 h.p., will display their 6-cylinder, direct reversing model which develops 260 h.p. at 600 r.p.m. This is a 4-cycle, solid injection, cold starting machine, with strikingly trim appearance and all working parts neatly enclosed. The constant pressure mechanical fuel injection system ensures the most economical and dependable operation possible. Perfect combustion and equal distribution of fuel, regardless of number of cylinders, are assured under all conditions of load. The lubricating system is of the force feed, dry sump type, giving upwards of 2500 h.p. hours per



Superior is exhibiting this clean-cut 260-h.p. Diesel

exhaust gases directly to and under the water; the Portage Steering Handle, which locks into position for new convenience in handling the motor; new Sight Gas Gauge, telling at a glance how much fuel is in the tank.

Along with these Johnson improvements are the general refinement of design of each and every part of the different models, and an all-round improved product. The reductions in price are really remarkable. The original Johnson Light Twin sold in 1922 for $140. An improved model sold in later years for $150. Yet today we have a vastly improved Johnson Twin selling at the astonishing price of $96.50!

Throughout the range of Johnson models new and lower prices are the order of the day. The Sea Horse Single, said to be the lightest outboard motor in the world, is now down to $72.75; but there is no sacrifice of quality — the Sea Horse Single, along with all the other models, is an improved motor in every respect.

The Johnson line blankets the field of outboard requirements. For every conceivable small-boat service there's a motor in the new Series 65 which fills the bill. Showgoers should not fail to inspect this fine new series of Johnson outboards.

Smith-Meeker Exhibit

THE Smith-Meeker Engineering Co., manufacturers of marine equipment and distributors of Edison storage batteries and other auxiliary machinery, have a complete exhibit of these products.

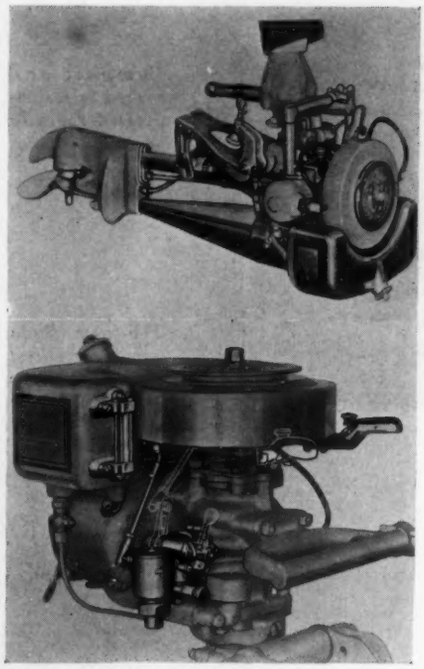
Included in the exhibit are Edison storage batteries, specially designed for marine requirements, an Edison continuous current control system, Hydroil oil purifiers, compact Universal generating sets, Homelite generators, CO-2 fire prevention equipment, and various types of pumps. Windlasses, both power and hand, and the other well-known products of the American Engineering Co., are also being displayed in the Smith-Meeker exhibit on the third floor.

Two New Caille "Singles"

FEATURING the Caille exhibit of trim outboard motors are two new single-cylinder 4 h.p. motors, model "79" and model "109," the latter with Caille multi-flex control which makes it possible to run the motor in forward, neutral, reverse and at variable speeds.

The new 4 h.p. "single" is designed with the Caille balanced power head, new type of gasoline jets which eliminate constant carburetor adjustment, a cast aluminium non-denting gas tank, underwater exhaust, and a centrifugal water pump which insures complete water circulation at slow trolling speeds. The total weight of the motor is 34 pounds.

The 4 h.p. model, equipped with the multi-flex control, is, in general, similar to the model just mentioned, with the exception of the reversing control which permits of complete maneuverability. Its total weight is 37 pounds.



Two 1933 Johnson Sea Horse models showing portage handle, synchro control, and gas gauge

Ruston Lister Diesels

PEET & Powers, of New York, are showing several models of the Ruston Lister Diesel motors, which are of the 4-stroke cycle type, cold starting, with compression ignition and airless fuel injection. The motors on exhibit are as follows: 4-cylinder, 70 h.p. marine engine, 1000 r.p.m., with reverse gear; 2-cylinder, 18 h.p., with reverse gear; 2½ kw. auxiliary generating unit, direct-coupled type; 2½ kw. generating unit, vertical type; 10 kw. generating unit.

A New Alcohol Stove and a Gear Pump

THE Perkins Marine Lamp Corporation, manufacturers of the favorably known "Perko" line of boat equipment, exhibit at the Show two very important items that have just been added to its already extensive line.

The first of these is a bronze gear pump with tobin bronze shafts and gears and high grade non-corrosive bronze body. Tool machined bearings allow solid bearing ends and no solder is used anywhere in its construction.

The second item is an alcohol stove with improved burners, which the makers guarantee to give a steady blue flame. The body is of heavy construction, finished in attractive colors. With this stove, which is a two burner type, is a copper supply tank for fuel with copper tubing and all the necessary fittings for quick installation and immediate use. A feature worth noting is the arrangement for keeping the pots in the proper position over the burners, regardless of vibration or choppy seas. These pot holders are adjustable for any size pot.

Wilcox-Crittenden Hardware

THE yachtsman will find in this exhibit many new and improved items of marine hardware which have been specially designed by Wilcox-Crittenden to give the boatman more comfort, freedom from annoyances, and more pleasure afloat. Wilcox-Crittenden have made an extensive study of the boatman's hardware needs during the past five years, with the result that hundreds of items have been changed, improved and redesigned.

There was a call for an anchor that would hold in any kind of bottom. It was designed, built, tested, then improved. The result is the Yachtsman's Anchor.

Landlubbers turning into boat owners, as well as old time yachtsmen, asked for more light and more air below decks. The results are Seamore portlights and improved and newly designed ventilators.

A skylight raiser that would really work was demanded. The Dauntless raiser is the result. A stern bearing and stuffing box that would not need attention during a season brought forth the Evergood. An anchor light that would not blow out or break apart was then demanded, and made.

For the dinghy and Snipe class sailors, complete sets of rugged, inexpensive fittings have been developed. For the outboard drivers, a new through the deck type throttle, new non-breakable steerers, and other needed fittings are included, together with a complete line of marine hardware.

Small Diesels

A SMALL marine Diesel, the Ailsa Craig, in two models, is exhibited by H. Mills Garner, Inc., 30 Church St., New York City. These are the DD2 2-cylinder, 10–20 h.p. and the VD4 4-cylinder 40–60 h.p. Both of these small Diesels are electric starting.

Johnson's 41-pound Sea Horse Light Twin

New Features on Eltos & Evinrudes

THE large display of Elto and Evinrude outboard motors, manufactured by the Outboard Motors Corporation, of Milwaukee, presents to the showgoer everything that is to be desired in the outboard line and many new 1933 advances in design. The outstanding feature of the Elto motors is the incorporation of the Elto gearless rotary valve in the service models.

This rotary valve, being gearless, is wear-proof, is silent because it is internal, gives perfect timing to the gas charge, and permits of perfect lubrication to the vital points.

The Elto Super Single, a lightweight motor for sportsmen, is built with the rotary valve, which greatly increases its power over the old model. In addition, it has underwater silencer, weedless propeller, adjustable propeller depth, positive type plunger pump, shock absorber handle and Elto battery ignition.

Likewise, the Elto Lightweight is equipped with the rotary valve, which increases its power and gives the motor an unusual pick-up.

The Elto Super "A" comes to the Show this year with improvements in design and a new electric starter. It is an ideal motor for speed tenders, family boats and small, light runabouts. The Super "C," the most powerful of the 2-cylinder motors, is also equipped this year with electric starter and rotary valve.

The Junior Quad, like its big brother the Senior Quad, is equipped with an electric starter, and in both the engines the secret of their smooth running and reliable performance is the internal rotary crankshaft valve.

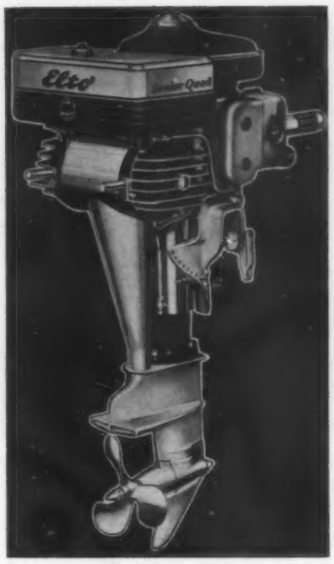
In addition to the rotary valve motors, there are four check valve models, including the Fisherman, Service "A," Special Speedster, and Senior Speedster, and two big Elto racing motors with rotary valves.

The long line of Evinrudes is equally as interesting and varied as the Elto line and includes six motors with the rotary valves—the light Sport Single, a more powerful Lightwin, the Fleetwin with electric starter, the Speeditwin with starter, the 4-cylinder Sportfour and the powerful Speedifour, both with electric starters. The Evinrude racing motors, Speeditwin Racer and 4-60, are also equipped with the rotary valve.

All the Elto and Evinrude motors built by the Outboard Motors Corporation come to the Show rated by a special laboratory maintained by the National Outboard Association. This "NOA" rating is the buyer's assurance that the horsepower is honestly determined.

Old and New Woolsey Paints

LAST year the C. A. Woolsey Paint and Color Co., of Jersey City, not satisfied to stand pat upon the well-earned reputation of their time-tried paints and varnishes, added a newcomer to their line—a high grade anti-fouling bottom paint then called Toxicop, and now renamed Tali-Cop. This paint met every test asked of it. Encouraged by this success, Woolsey chemists kept right on working, and have now added a brilliant green paint to the Tali-Cop line, which last year was made only in red and brown. This newcomer is said to be far more anti-fouling than the average green paints heretofore produced, and to be a worthy rival to its red and brown sisters. Sample test panels of all Woolsey paints are being shown at the Show, where competent assistants will be on hand to answer questions regarding marine painting problems. A valuable and instructive booklet, "Suggestions on How to Paint Your Boat," will also be available to visitors to the Woolsey booth.



The Elto Senior Quad with electric starter

A New Backfire Trap and an Automatic Bailer

THE M. L. Oberdorfer Brass Company deserves credit for two important contributions to safety on the water. One is the Oberdorfer Backfire Trap which has been adopted by nearly 90 per cent of the important marine motor manufacturers. The other is the Oberdorfer Super Master Automatic Electric Bilge Pump which guards against the danger of unexpected leaks. Both of these items are to be seen at the Oberdorfer Brass Company's exhibit at the Show.

The Oberdorfer Backfire Trap minimizes the danger of fire caused by a backfire explosion. Explosive gases in the motor compartment are exceedingly dangerous unless protection is provided.

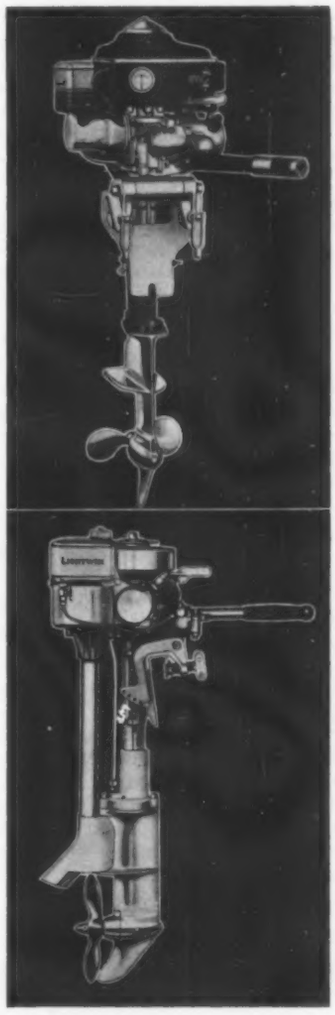
The Oberdorfer Super-Master Automatic Electric Bilge Pump eliminates the nuisance of pumping out the boat and does away with the worry over unexpected leaks. When the water reaches a certain level the pump automatically sets to work, and pumps until the level is lowered, then automatically stops.

Topping Brothers

TOPPING BROTHERS, for many years one of the largest marine hardware supply houses and distributors in the New York area, have in their exhibit a full line of marine accessories.

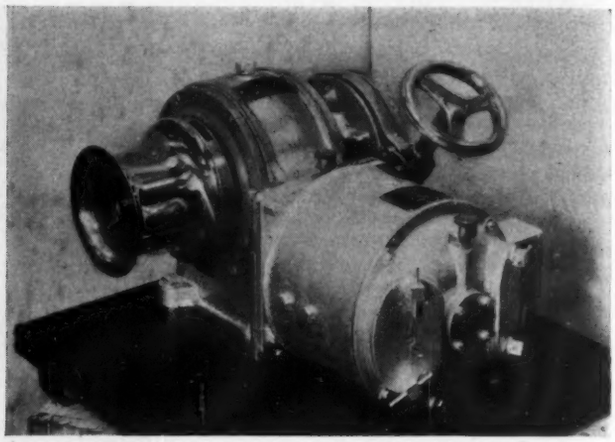
There is a complete display of Goodrich Cutless rubber bearings of all sizes. These rubber bearings have been widely accepted by yachtsmen in recent years and those who are not acquainted with their characteristics should stop at this exhibit to be enlightened. Monel metal shafts are distributed by Topping and an interesting display of these shafts may be seen at their booth. Pumps made by Lobee are included in the exhibit, along with many other products of well-known marine manufacturers.

In addition to the accessories on exhibit, complete information concerning the numerous products which they have on sale in their well-arranged store in New York and which they distribute, such as Dodge cork life preservers, Emerson flags, and Wickwire Spencer steel wire, may be obtained at the Topping booth.



The 1933 Elto Super A Twin (top) is available with electric starter. With internal rotary valve the new Evinrude Lightwin has added power

"Miss America X's" two Federal-Mogul Tru-Pitch propellers which are exhibited by Federal-Mogul Corporation



In the Hyde exhibit is this powerful electric windlass designed for 32 or 110 volts DC, and for hand power

Federal-Mogul Tru-Pitch Propellers

A FEATURE of the Federal-Mogul Corporation exhibit at the Show is the display of the original propeller wheels used by Commodore Gar Wood on the *Miss America X*. These Tru-Pitch propellers were of the greatest assistance in enabling Commodore Wood successfully to defend the Harmsworth Trophy in two grueling heats, and to add still another laurel to America's championship records by establishing an all-time speed of 124.9 miles per hour on the water.

This interesting exhibit of *Miss America's* propellers, housed in an attractive mahogany case, has already created much favorable comment wherever it has been shown. Its travels have been extensive, dating from the record-establishing Mile Trials of *Miss America X* in September. The New York Show finds it on the last leg of its tour.

Federal-Mogul Tru-Pitch Propellers in various sizes and types are also exhibited under the direction of Bowler, Holmes and Hecker, New York representatives of the manufacturer, who are in active charge of the booth, although Mr. T. F. W. Meyer, sales manager of the Marine Division of the Federal-Mogul Corporation, is there from Detroit to assist with the comprehensive display of bronze products. These will prove extremely interesting to the boat owner.

Besides a number of special alloy bronze Tru-Pitch Propellers, several special propeller gauges developed by Federal-Mogul engineers to measure simultaneously the pitch, balance and bore of a propeller wheel are displayed. A complete array of bronze and steel-back, babbit-lined bearings and bronze bushings for various marine uses are exhibited at the Federal-Mogul booth.

Edward Smith & Co.

NOT content to rest on their laurels, the Edward Smith & Co., known all over the world for their renowned line of marine paints and varnishes, are constantly experimenting in their busy research laboratory towards the improvement of their products, and the manufacture of new lines. For instance, Smith's Bottom Paint has been perfected to the point where it is now recommended even for the highly destructive tropical waters. Then there is the newly-improved All-Purpose Aluminum Paint, which has proven so successful in protecting wire rigging, anchors, turnbuckles and other exposed metal parts, as well as being excellent for painting bilges. Their Spar and Aquatite varnishes have stood the test of time, and their new varnish, using Bakelite gum, is proving decidedly popular. Visitors to the Smith booth will be welcomed by trained paint salesmen who will be glad to discuss and investigate individual paint problems of the yachtsman.

Hyde Propellers and Electric Windlasses

FROM Bath, Maine, an interesting exhibit of propellers, stuffing boxes, stern bearings and other power boat fittings, is made by the Hyde Windlass Company. In addition to this necessary part of a boat's equipment, the same company shows a complete line of yacht windlasses, including an electric half windlass. There is a growing appreciation of the value of a windlass that can be operated either by electricity or by hand, so that in case of any failure of the motor the windlass itself can be used by hand and not be a useless incumbrance. The Hyde half windlass, as its name implies, can be operated either way, and it can be furnished for either 32 or 110 volt, D.C.

There are two outstanding features of this power windlass — its accessibility and the extreme convenience with which it can be changed from electric to hand operation. The motor is not enclosed in a housing, and in case of the necessity of repairs or adjustment it can be removed easily from the windlass proper, leaving the latter so that it can be operated by hand until repairs are completed. No part of the windlass needs to be removed, it being only necessary to place the windlass bar in position and apply arm power. This windlass is made with either one or two heads, and the larger sizes have two wildcats. The whole is rugged, and able to withstand any strain put upon it.

Top, left. Oberdorfer automatic electric bilge pump. Above. The improved Perkins alcohol stove with a new type of burner

This Chris-Craft 15½-foot runabout is a new addition to this well known line of fast boats

Some New Boats and Engines for 1933

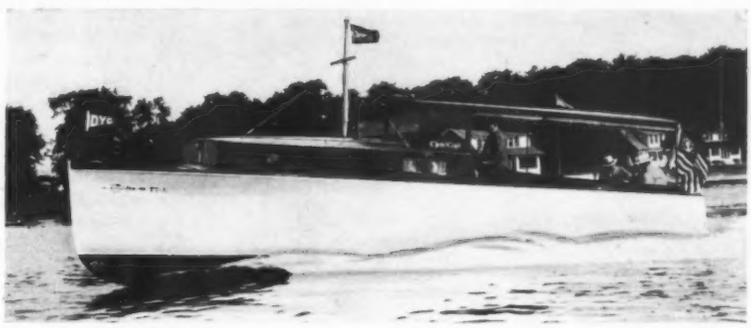
New Chris-Craft for 1933

IN BRINGING out its new line of models for 1933, makers of Chris-Craft level-riding runabouts and cruisers have added a new runabout at a sensationally low price to meet the demands for a high grade boat at a figure to suit the times and the pocketbooks of those who must count the cost of their boating. In doing this, the company has lowered by $200 its previous record for a low-priced runabout, the new model being listed at only $595.

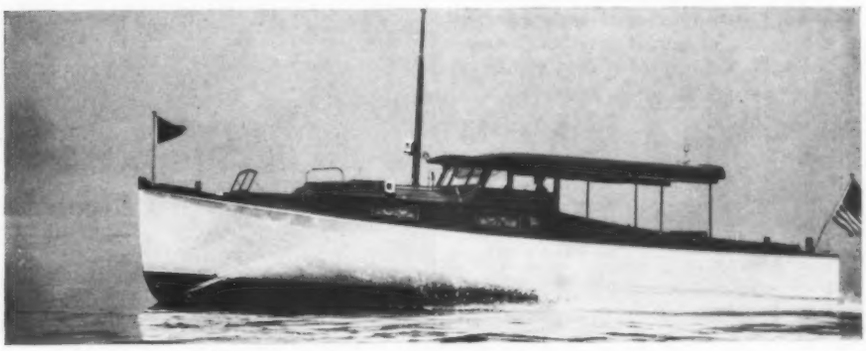
This new Chris-Craft is 15½ feet long with full 5 ft. 4 in. beam, 22½ in. freeboard forward and 15 in. aft, with moulded depth forward of 35 in. and of 24 in. aft. It is built to the high standards of all Chris-Craft, with genuine Philippine mahogany, double-planked bottom with sturdy cross members and screw fastened construction. It is full powered, with a 4-cylinder rubber-mounted marine motor, and has speeds up to 30 m.p.h. In common with all Chris-Craft, it contains such additional exclusive features as right hand drive, cam and lever steering, complete engine hatch ventilation, life preserver cushions, automatic bilge bailer, automobile type steering wheel, ample storage space, self starter and electric lights, and the new revolutionary Chris-Craft Level Riding principle.

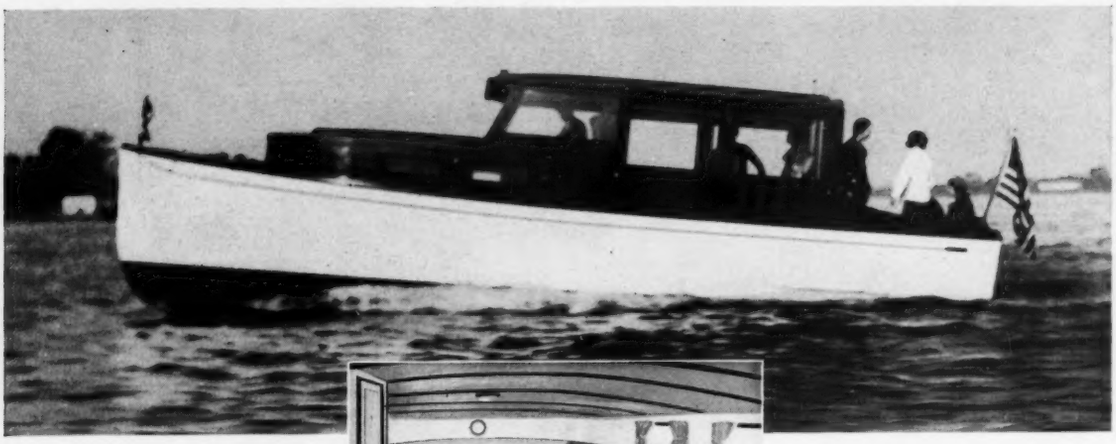
Chris-Craft also offers a De Luxe 15½-foot Level Riding runabout at $795. This boat has enjoyed two years of outstanding performance under the most grueling conditions. The 1933 model has been improved and refined and is smart in line and rich in finish. It is powered with a 55 h.p. rubber-mounted marine motor and has speeds up to 32 m.p.h. It has all of the exclusive Chris-Craft features, and is finished in brilliant mahogany with dark coverboard, nickel-silver hardware and red bottom.

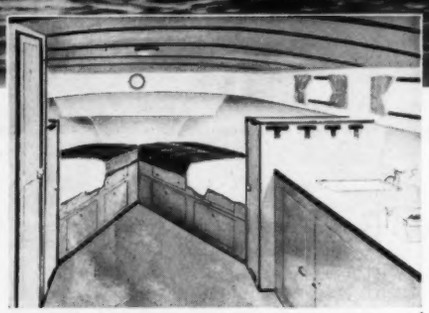
The 27-foot model Chris-Craft runabout has beauty of line, finish and construction. At right, the Chris-Craft 36-foot V-type Family Cruiser. There is also a 31-footer of the same type



The Matthews 38-foot single cabin cruiser (below) with after end of cockpit clear for fishing







The 1933 Richardson 32-foot Cruisabout with enclosed cockpit. Insert shows forward end of cabin

The Chris-Craft 18-foot runabout, priced but slightly higher, has been improved in line and beauty. It is offered in two models — Special and De Luxe — with differences in power, finish and equipment to suit individual tastes. The 18-footer is a big husky boat that is equally at home on sheltered inland lakes or open salt water. The level riding feature introduced in this boat last year has met with an appreciative reception on the part of owners and boat enthusiasts alike.

In the new 21-foot runabouts, Chris-Craft offers big-boat performance and carrying capacity (9 people) combined with moderate price. Three models are offered in this length: Special, De Luxe, and Custom. Noteworthy in the 21-foot models, in addition to all the advantages of design and construction embodied in the 15½ and 18-foot models, is the double cockpit forward. All three 21-footers are powered with six-cylinder marine motors of the latest type and design.

In the 25-foot runabout models Chris-Craft has combined the beauty of a flush decked boat with the practical advantages of the coaming type in a new streamlined semi-coaming design. Three models are offered in this hull length. Each has a carrying capacity of 12 people and varies only as to power, speed and equipment.

The 27-foot custom runabout — a limited production boat — completes the 1933 Chris-Craft runabout fleet. Its beauty is the beauty of new streamlined deck and cockpit design; of gleaming chrome-plated hardware and seats upholstered in genuine leather.

New Richardsons

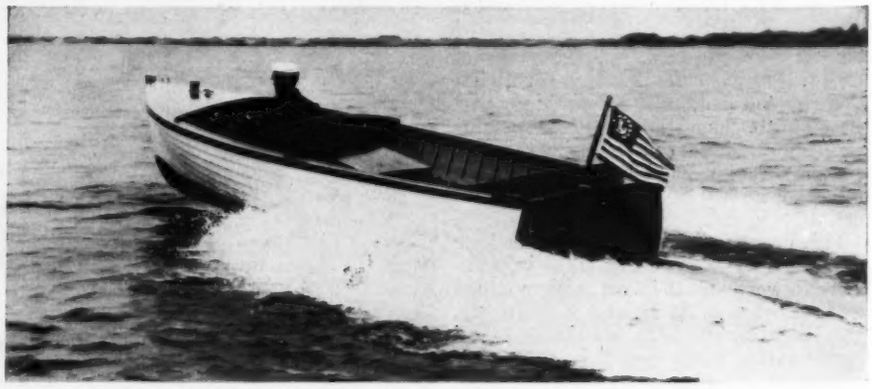
TWO of the aces in the 1933 deck of stock motor boats are the Richardson 26-foot Richardson Jr. and the 32-foot Cruisabout, developed by the Richardson Boat Co. as a result of their long experience in giving the boating public the most for the dollar in small cruising craft. The Richardson Jr. is the grown-up Baby Richardson of past years, with better and roomier accommodations. One foot six inches has been added to the length, a couple of inches to the beam, while the draft remains at two feet four inches.

The single cabin model has accommodations for four people, with four berths, toilet room, large galley, fine clothes lockers, etc. The cockpit is of good size — almost half the length of the boat — giving plenty of room for day boating and fishing as well as cruising. A canopy, windshield, side wings and canvas drop curtains give adequate protection to the occupants.

The Utility model, or Day Cruiser, gives more cockpit space. The Day Cruiser has a small toilet room forward and cockpit about three-fourths the length of the boat, the forward half being protected by a windshield, canopy, or it may be glass-

On a length of only 26 feet the Richardson Jr. provides accommodations for a party of four. A Gray "Six" gives a speed of 15½ m.p.h.

At right, an 18-foot De Luxe Sea Skiff by Hubert Johnson, of Bayhead, N. J.



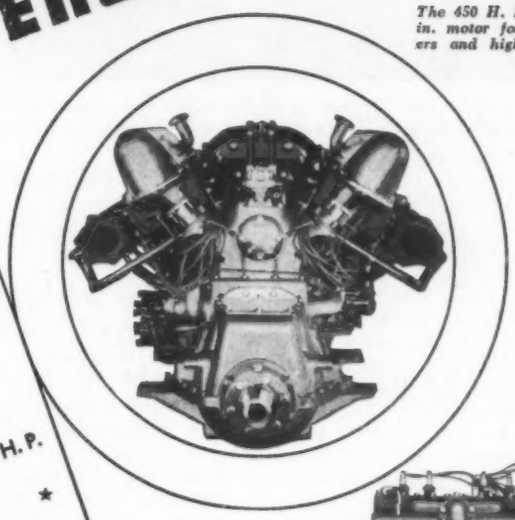
28 PROVED Marine ENGINES FOR 1933

NEW MODELS FOR . . ★ 1933 ★

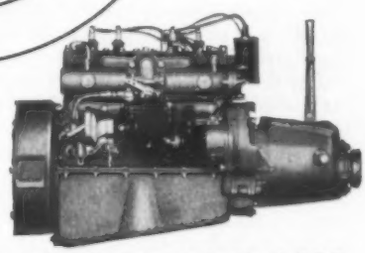
2 Cylinder Medium Duty, 4, 8 and 10 H.P.
4 Cylinder Medium Duty, 12, 16 and 20 H.P.
4 Cylinder Medium and High Speed, 25 and 45 H.P.
4 Cylinder Medium Duty, 35 and 40 H.P.
6 Cylinder Medium and High Speed, 60 and 82 H.P.
6 Cylinder Low and Medium Duty, 65 and 100 H.P.
6 Cylinder Medium and High Speed, 60 and 85 H.P.
6 Cylinder Medium and High Speed, 70 and 92 H.P.
6 Cylinder Medium and High Speed, 80 and 102 H.P.
6 Cylinder Low and Medium Duty, 150 H.P.
6 Cylinder Medium and High Speed, 175 H.P.
6 Cylinder Medium and High Speed, 225 H.P.
12 Cyl. Medium and High Speed, 300 and 450 H.P. ★

★ ALL MOTORS SALT WATER EQUIPPED

★ Built-in Reduction Gears available on all medium duty and high speed six cylinder models.



The 450 H. P. V-12, a 1414 cu. in. motor for cruisers, commuters and high speed runabouts.

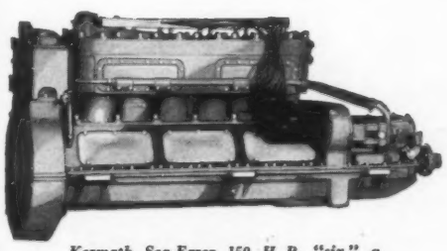


This low priced four cylinder 25 and 45 H.P. motor is ideally adapted to small runabouts, launches, cruisers and auxiliary sailing craft.

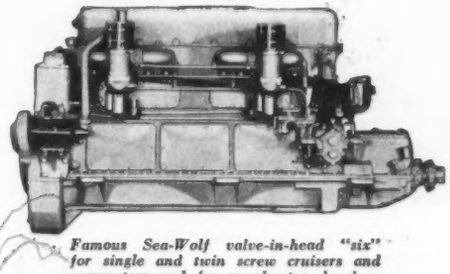
TWENTY-EIGHT powerful, dependable marine engine designs . . . each one a time-tried, tested triumph of fine engineering . . . each model backed by twenty-five highly successful years of manufacturing marine engines exclusively. That's something to be proud of! More — it's something to guide you as a buyer with telling accuracy in the selection of the right motor for your boat. Is it an open, double end launch? The Coast Guard uses the small two-cylinder 8-10. Is it deluxe power for a beautiful power yacht? There's the V-type 1414 cubic inch twelve to give you 450 of the most dependable, super-smooth, silent horsepower any yachtsman ever possessed. Twenty-eight proved all-marine motors for 1933 . . . the widest choice of power plants ever offered. Also a reliable, trustworthy consulting service for boat owners.

. . . New Kermath catalogs on request . . .

Valuable territories open to dealers seeking the Kermath franchise.



Kermath Sea-Farer 150 H. P. "six," a rugged cruiser motor of 678 cu. in. displacement, in true right and left hand models for single or twin screw use.



Famous Sea-Wolf valve-in-head "six" for single and twin screw cruisers and commuters and for runabouts; develops 235 horsepower at 2400 r. p. m. Without a counterpart for efficiency and power.

KERMATH

KERMATH MANUFACTURING COMPANY

5893 COMMONWEALTH AVENUE : DETROIT, MICHIGAN

Canadian Office — 90 King Street West, Toronto, Ontario

Bruns, Kimball & Co., Fifth Ave. at 15th St., New York City

Walter Moreton Corp., 1043 Commonwealth Avenue, Boston

Here is the very latest Elco creation, a 33-foot raised deck cruiser with a spacious forward cabin and speeds up to 20 miles, depending on motor selection

enclosed or screened. The power plant may be either a Gray 4–44 or Gray 6–66, giving speeds up to 15 m.p.h.

The 32-foot Cruisabouts have 9 feet beam, and the purchaser has the choice of single or double cabin with open cockpit, single or double cabin with enclosed cockpit, Vee-drive with open or enclosed cockpit, Day Cruisabout with open or enclosed cockpit, and a Utility model, all at prices which give the utmost value. Gray 6–75 motors are standard installations, giving speeds up to 15 miles or better, but other motors up to 200 h.p. may be used, giving speeds up to 30 m.p.h.

The deck and cabin layouts and equipment of all Richardson boats are the result of years of study and experience by a capable organization which has been signally successful in catering to the wants of the motor boating public. Coupled with a merited reputation for excellence of materials, workmanship, finish and equipment, Richardson boats are well worth the critical inspection of anyone interested in this size motor boat.

Matthews Boats at New York

FOLLOWING the plan that was carried out last year for exhibiting their new cruisers, the Matthews Company, Port Clinton, Ohio, are displaying several of their models in the showroom of their New York dealer, Bruns, Kimball and Company, corner Fifth Avenue and 15th Street. Included in this special showing are several Richardson cruisers and Hacker runabouts.

Among the new cruisers added this year to the Matthews line of 38- and 46-footers is the "38" Utility Boat. This is a boat of many uses, and a new plan of merchandising which the Matthews Company is launching makes it possible for a purchaser to buy as much or as little boat as he wants. This plan, called the "equipment selection plan," enables one to select just the items he wishes in order to adapt the boat to his own particular needs, be it fishing, cruising, passenger carrying, commercial use or as a yacht tender.

The boat itself, at the lowest price in Matthews history, $3880, is in every respect the identical hull as the other popular "38" models, with the same dimensions — 38′ 10″ long, 11′ beam and 3′ draft.

New Sea Skiff by Hubert S. Johnson

HUBERT S. JOHNSON, Bay Head, N. J., has a new 18′ de luxe model sea skiff. She is similar to the boat exhibited at the Show last year, but the new model will be an all bright varnished job, of lapstrake construction, with all fastenings of brass or bronze, and copper riveted. All hardware will be chrome plated, and the following equipment will be installed: Monel Metal shaft, Goodrich Cutless Rubber Bearing, auto draglink steering, Britannia Metal gas tank, and copper exhaust pipe. Power by Chrysler.

The round bottom design proved so successful in speed, ability and dryness this past summer, that the new model will show only refinements.

Midshipman II. A Compact Horizontal Motor

THE Gifford-Wood Company's 1933 line of marine engines consists of three models of Midshipman II inboard engines of the 4-cycle, 4-cylinder, horizontal opposed type, with every feature based on sound marine engine practice. In every detail a marine engine, with all materials selected as the best for their various purposes, thoroughly tested afloat and ashore, the reliability of this motor in service has been definitely established.

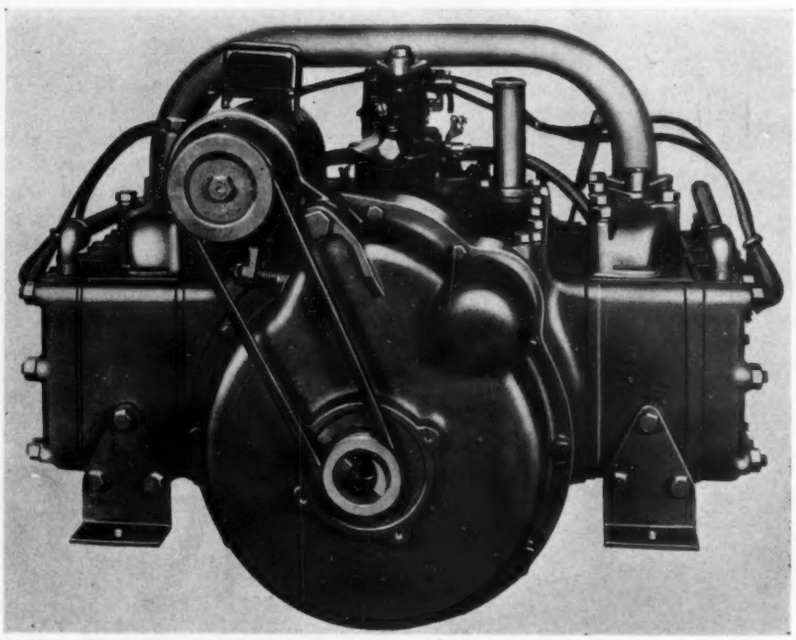
The horizontal opposed cylinders, and other features of design and construction, result in extreme compactness and smooth, vibrationless operation, together with flexibility, low center of gravity and easy accessibility to all parts. The weight has been kept very low by the careful choice of materials and refinements of design.

All three models, the High Speed, Low Speed and Racing Model, are of 85 cubic inch displacement and substantially identical dimensions. The length over all, including reverse gear, is 25 inches, the width 24¾ inches, the height 12 inches from the crank shaft center, and 5¾ inches from there to the lowest point.

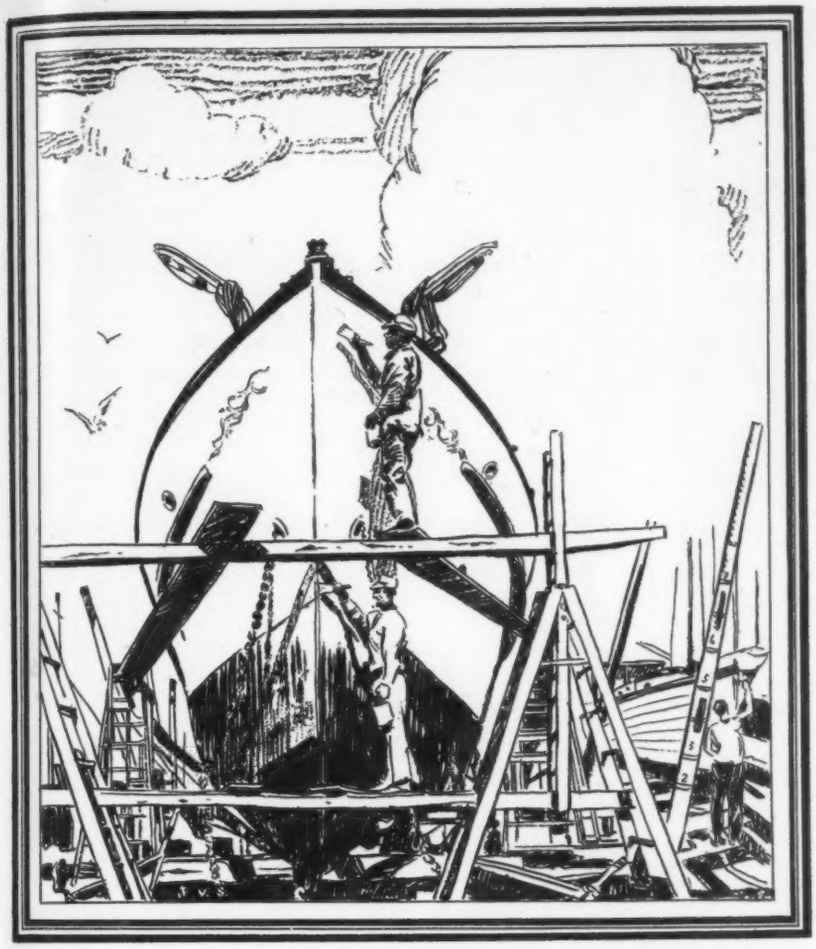
The High Speed and the Low Speed models differ in that the former has dual downdraft carburetion; the latter, single carburetion. The racing model has a higher compression ratio and lighter weight parts. It is laboratory tested, individually tuned and carries a factory certified horsepower curve.

The High Speed model weighs but 205 pounds complete with electric starter and reverse gear, and develops 32 h.p. at 3200 r.p.m.; the Low Speed weighs 215 pounds complete and develops 20 h.p., at 2000 r.p.m.

(Continued on page 122)



The Midshipman 4-cylinder horizontal opposed motor, 20 to 32 h.p. A compact outfit



Choice of the Show

International (Holzapfel's) Paints

Visit Booth No.'s 82 and 83

THE more prominent yachtsmen choose International (Holzapfel's) because it lasts longer. International has an extraordinarily tough film with a maximum of durability.

International lasts longer because it is manufactured better. Made according to formulae worked out through fifty years of elaborate experiments, under actual service conditions.

One third of the world's tonnage has chosen International (Holzapfel's) products and agents in over 300 foreign ports have elected International because of its consumer popularity. International now has a manufacturing plant in every country of maritime consequence.

International REGISTERED TRADE MARK HOLZAPFEL Paints

International Paint Company, Inc.

21 WEST ST. NEW YORK, N.Y.

The KELVIN-WHITE SPHERICAL COMPASS

the modern guide of yachtsmen

assures a steady, accurate card in the roughest weather. The perfectly spherical bowl completely filled with solution permits free motion of the liquid and the card in any vertical direction without disturbance horizontally, thereby overcoming the swing of the card, found in ordinary compasses. Glycerine ballast damping for compass bowl; deadbeat card with overswing eliminated; easy to read because of the natural magnification of the spherical bowl.

For motor or sail vessels in 4, 5, 6, 7 and 8" diameters.

On exhibit at Booth 69 at the New York Motor Boat Show.

KELVIN-WHITE COMPANY

112 STATE ST., BOSTON ★ 38 WATER ST., NEW YORK

The Passing of the Tancook Whaler

(Continued from page 56)

As regards speed, the whalers, with their schooner rig, did not, of course, point high on the wind, but they footed very fast. If well sailed, they could usually give a good account of themselves at the weather mark, but "down a reach" was another story! With fisherman staysail set, and with loose-footed foresail pulling like a team of horses, they ran up to eight or nine knots. I have very vivid recollections of being put to shame in yachts of greater overall length when once sheets were started. There is record of a 36-foot overall boat covering an eight and a half mile course, in a fishermen's regatta, in one hour and five minutes, but in this case there must have been but little windward work!

I could tell of performances of the whalers, as told to me by men who did not lie and who exaggerated but little — of wild runs home before the ever increasing gale; of driving through breakers when the sharp, high stern served them in good part; of one boat, the one in which I sailed, hove down in a sudden squall (one cold Christmas Day) until the inrushing water carried her helmsman overboard. She had no watertight cockpit and boasted no outside ballast, but she righted herself, and her skipper, who could not swim a stroke, crawled back with the aid of the tiller, on which he had retained his hold. The men who sailed these boats were hard, but a note of affection and confidence always crept into their speech when referring to their boats.

My first and greatest problem in gathering data on the type was to get an authentic model, or models, from which to take the lines. Inquiry revealed what I already suspected. Amos Stevens, the old master builder of Tancook, was everywhere acknowledged to be the greatest authority on the type, and more responsible for the development of the whaler than any other man. But his shop had been destroyed by fire some years ago and, with it, hundreds of models which would have been of the greatest interest to the student of small boat architecture. Knowing that Randolph Stevens, of Chester and Lunenburg, sailmaker and helmsman, was a son, and having a friendly acquaintance with him, I made inquiries and was pleased to find that he would ask his father to make a model for me. That was two summers ago. Apparently, the hands responsible for so many beautiful boats were slow in starting, but, about Christmas, I received a handsome little model in my morning mail. It is made of pine, with an underbody of mahogany. Possibly, it will be the last model of a real Tancook whaler made in Nova Scotia.

The sail plan was made by Randolph Stevens himself, and as he was responsible for many of the rigs carried by the original boats, the authenticity of the whole may be assumed.

For the photograph I am indebted to Mr. W. R. MacAskill. It would be a strange Nova Scotia craft, indeed, of which no picture were in "Mac's" collection.

⚓ ⚓ ⚓

The lines reproduced herewith were taken from the model by Amos Stevens, the work being done by H. I. Chapelle, whose series on vanishing American types is currently appearing in YACHTING. They are, therefore, most accurate. Mr. Chapelle calls particular attention to the peculiar run of this boat, which he thinks was responsible for the speed of the boats with started sheets. The Tancookers, he says, show some similarity in form to the Eastport pinky, but are much sharper. The model from which the lines were taken had a centerboard, but some of the type were built without boards. The rig is interesting, particularly the loose-footed foresail and the club on the fisherman staysail, and will bear study.

Universal
312 Universal Drive
Oshkosh, Wis.

Here's Real News

EASTERN BRANCH OFFICE, 44 WARREN STREET, NEW YORK, N. Y.

Universal
312 Universal Drive
Oshkosh, Wis.

FEBRUARY 1933

UNIVERSAL ANNOUNCES SUPER-SMOOTH TWIN

Blue Jacket Twin Latest Addition to Universal Line

Owners of small boats are showing great interest in the new two-cylinder Blue Jacket Twin just announced by the Universal Motor Company as the latest addition to their famous line of 100% Marine Motors.

Particularly notable is the smoothness of this new engine — a smoothness which is said to have never been approached before in motors of this class. The Twin is a four-cycle model rated at from 5 to 10 Horse Power, and turning up to 2000 Revolutions Per Minute. A 3-inch bore and a 3½-inch stroke give a piston displacement of 49½ cubic inches.

Crankshaft and flywheel are both dynamically and statically balanced on the same precision machinery used by Universal in the production of its largest models which have long been famous for their freedom from vibration. In addition, all assemblies of pistons and connecting rods are accurately weighed and balanced to assure pulseless operation at all speeds.

Complete specifications on this new Blue Jacket are as follows:

GENERAL: "L" Head type, 2-cylinder, 4-cycle, 3" bore, 3½" stroke, 49½ cubic inch displacement, up to 2000 R.P.M.

HORSE POWER: 5-10-H.P.

CYLINDERS: Chrome nickel marine alloy iron, cast integral with crankcase.
Cylinders, bored, reamed and mirror honed to size.

CYLINDER HEAD: Chrome nickel alloy iron — easily removable, 14 cylinder head studs.

PISTONS: Light weight, cast iron, heat treated. Two ⅛" and one 3/16" ring above pin.

PISTON PIN: High Manganese steel, full floating.

CONNECTING RODS: Drop forged, high carbon steel — heat treated.

CRANKSHAFT: Fully counter-weighted and balanced. Dynamically and Statically. Two oversize bearings.

FLYWHEEL: Alloy iron — accurately balanced.

CAMSHAFT: Cams forged integral, drop forged steel, case hardened, ground and polished, two bearing.

VALVES: Special heat resisting alloy steel. Removable guides.

VALVE TAPPET: Mushroom type — will not wear.

TIMING GEARS: Chrome nickel iron — Steel and non-metallic combination — noiseless.

REVERSE GEAR: Heavy Duty — Paragon — OXK — 90.

LUBRICATION: Full pressure system — to all crankshaft, camshaft, and connecting rod bearings — gear type oil pump.

IGNITION: High tension magneto as standard equipment — battery ignition available.

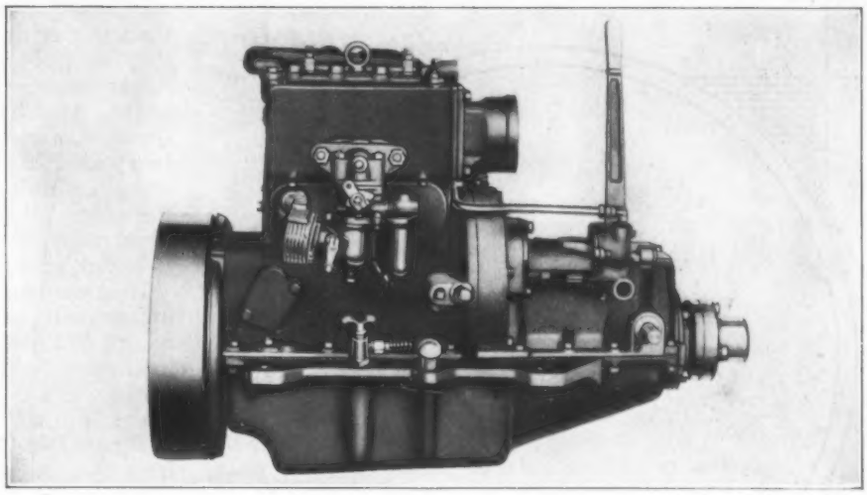
CARBURETOR: Marine type Stromberg.

FLAME ARRESTOR: Universal built-in type.

WATER PUMP: Gear Type.

PROPELLER COUPLING: Bored ⅞" dia.

ENGINE ROTATION: Left Hand — requires right hand rotation propeller.



WEIGHT: Net 320 lbs. Shipping 380 lbs. Export shipping weight 410 lbs.

STANDARD EQUIPMENT: Reverse Gear. Propeller coupling, hand sump pump, carburetor, lifting ring, water pump, oil level gauge, vacuum cleaned crankcase, hand starting crank, high tension magneto, magneto switch, magneto wrench, tappet wrench, choke rod, and instruction book.

OPTIONAL EQUIPMENT: 6-volt generator, distributor, coil, ignition switch and ammeter, 6-volt electric starter, 6-volt battery, rear hand starter, mechanical fuel pump. Tachometer drive, instrument panel, with oil gauge, ammeter, ignition and light switch, instrument panel with all above instruments plus Tachometer.

And the Price—Boy oh Boy what a Buy!

The Blue Jacket Twin is priced for 1933 purses, priced for the man who has never been able to get in the inboard class before, priced for the biggest dollar's worth of value in all the realm of motor boating.

Write, wire, phone or holler for complete information and for this amazingly low price.

Universal Plans Larger Production of All Models

Orders and commitments already received for 1933 indicate a higher operating basis in the Universal plant for the coming year.

The following are the important units in the Universal line upon which production will be concentrated:

BLUE JACKET FOUR

50 h.p., 4000 r.p.m.

The smoothness of an eight with the compactness and economy of a four. For small runabouts and racing boats in the 125 cu. in. class.

BLUE JACKET SIX

Cruiser Model: 40 h.p., 2500 r.p.m.

Hi-Speed Model: 70 h.p., 4000 r.p.m.

Overall length under 48 in. Weight under 500 lbs.

FLEXIFOUR

25 h.p., 2500 r.p.m.

The old reliable Flexifour with a host of improvements.

CRUISER SIX

Standard Model: 60 h.p., 2000 r.p.m.

High Speed Model: 88 h.p., 3000 r.p.m.

CRUISER EIGHT

Standard Model: 80 h.p., 2000 r.p.m.

High Speed Model: 115 h.p., 3000 r.p.m.

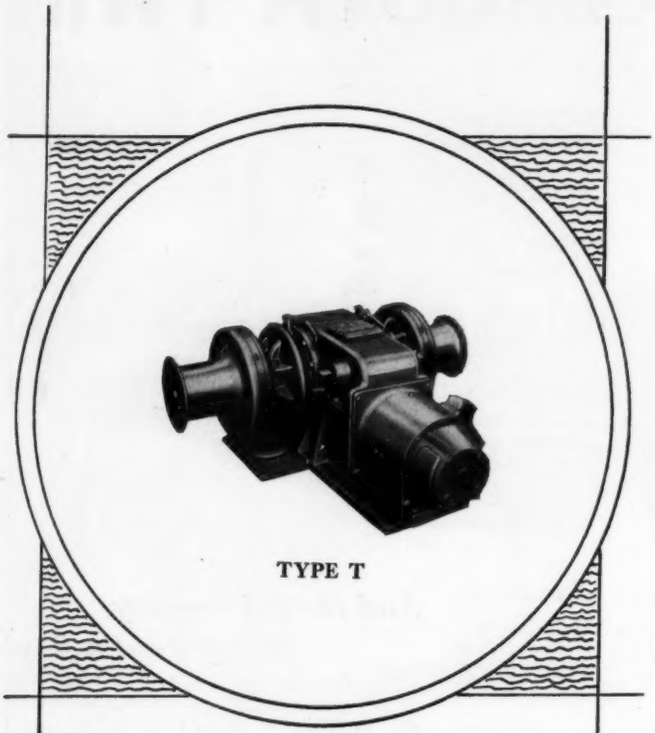
All of these models, with the exception of the Blue Jacket Fours are available with the Universal Silent Built-In Reduction Drives for use in turning larger wheels on heavier, slower driving boats.

Universal Electric Plants

are the last word in convenience and in economy. For years, Universal Electric Plants have been noted for their reliability and the smoothness of their operation. Models for marine use range from 1¼ KW to 25 KW in capacity. Many of the world's most famous yachts are equipped with Universal Electric Plants.

1933 IS A UNIVERSAL YEAR

A Distinguished Necessity on *EVERY* Yacht



TYPE T

AECO

Electric Windlasses

a type for every yacht
cruiser, sailboat, auxiliary

WINDLASSES
SAIL HOISTS
DAVIT WINCHES

BOAT HOISTS
ANCHORS
STEERING GEARS

Ask your boat yard for particulars or write for literature

AMERICAN ENGINEERING CO.

2432 ARAMINGO AVENUE
PHILADELPHIA PENNSYLVANIA

The Happy Hunting Ground of "Sixes"

(*Continued from page 60*)

have lapsed long before the depression. As it is, this fleet has not only survived in its entirety, but there is a demand for new boats, a result which may be attributed to the owners' willingness to economize as much as possible. Nor are the boats any the worse for the economy. The care of an owner is just as tender as that of a shipyard, and while there is nothing worse than a boat which is "by the heels" we have found that a Six-Metre may be kept in "A-1" trim without extravagant outlay. They may be too big for children to play with, and too expensive to buy new or re-rig each year, but they are almost the only "real boats" which an owner can keep up himself if he wishes. Re-rigging a "Six" is cheaper than re-rigging an "Eight" or a "Ten," and although they do not make such good second-hand cruisers as larger boats, they do make good second-hand racing boats. At Charlevoix, *Betty*, *Dauphin*, *Firefly*, *Oslo*, *Question*, and *Grebe*, have all won races during the last two years. On the West Coast *Lanai* has done more than enough winning to make it interesting, and if some of the older "Sixes" on Long Island Sound would only show their heads, they might well give *Jill*, *Nancy*, *Bob-Kat*, and *Lucie* a run for their money.

If American "Sixes" are disappearing, it is most unfortunate, as they are a sporty class with an enviable record and deserve a far better fate. Those who believe in them should do all they can to continue Six-Metre history. Let it be said again that there is certainly one yacht club which will continue to welcome them to the "Happy Hunting Ground of 'Sixes,'" where they will have clear water, good care, and association with the battle-scarred veterans of national and international fame and, above all, where they will find keen competition for the rest of their days.

\+ + +

"Hilltop Hattie"

(*Continued from page 54*)

record of the rise is incomplete. It was nearly a week before a normal position was reached.

6th March		
8:30 A.M.	28.92	(First observation)
10:30	28.78	
10:45	28.76	From the last reading given the rise was slower, reaching 29.34 at eight the following morning and remaining there nearly all the succeeding 24 hours.
11:00	28.73	
11:15	28.70	
11:30	28.68	
12:15 P.M.	28.62	
12:30	28.58	
12:50	28.54	
1:15	28.51	
1:30	28.49	
2:00	28.48	(The low)
3:25	28.54	
4:45	28.63	
6:12	28.72	
7:19	28.80	
9:00	28.91	

It was a humdinger! And we and *Hattie* lived through it — with the difference that we stayed put and *Hattie* did not. *She*, apparently, thought the prematurely green hills of Maryland downwind were beckoning to her, and being a hilltopper set out for them. Away she went, with no hand to guide her. None saw her go. However, a ghostly hand must have seized her helm, for she sailed through two crooks in the channel with the wind from a direction that would seem to render this impossible,

TODAY Chrysler builds and sells an even greater percentage of marine engines rated between 35 and 150 horsepower than ever before.

The leaders of the boating industry have learned that no other marine engine builder can match Chrysler in high quality and low price.

For no other marine engine builder can match Chrysler resources and facilities.

THIS SWING TO CHRYSLER

Chrysler marine power plants are designed by one of the world's foremost engineering groups.

They are built by the newest and most precise methods and machinery . . . at only a fraction of the overhead cost if this modern equipment were used solely for marine engines.

Chrysler builds complete units. It maintains control over its design and production and permits no division of responsibility for performance results.

Every year has seen important additions to the Chrysler line.

Every year has seen important new Chrysler engineering developments.

Chrysler's new and exclusive type of engine mounting made possible marked improvement in smooth performance as well as much simpler and more convenient installations.

Reduction gears, as designed and built by Chrysler, made these engines available for all types of boats from the 18-foot runabout to the 70-foot cruiser or auxiliary schooner . . . with great savings in first cost, fuel and upkeep.

Recognition of all of these factors is the basic reason for the growing swing to Chrysler.

Chrysler
MARINE ENGINES

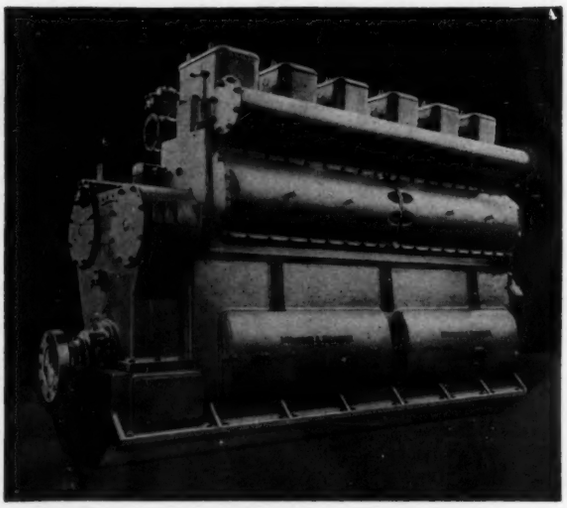
AMPLEX MANUFACTURING COMPANY • DETROIT, MICH.
Division of Chrysler Corporation

Chrysler Marine Engines will be exhibited in Space Z, Mezzanine Floor, during the National Motor-boat Show, Grand Central Palace, New York City, January 20-28

AN ECONOMICAL POWER PLANT

ONE reason why McIntosh & Seymour Diesel engines make economical power plants is because of the low initial cost.

There are many other reasons and these will be discussed in this space in later issues.



Diesel engines as a class are not as expensive as is popularly supposed. The cost is comparable with other forms of power, often the cost is less. This is particularly true when it is considered that the engine itself is practically the complete installation.

McIntosh & Seymour engines because of unique features, modern design, and use of especially selected material make possible the installing of large power units with relatively small initial cost.

McINTOSH & SEYMOUR CORPORATION
AUBURN, NEW YORK

EXCLUSIVE YACHT REPRESENTATIVE
EARL H. CROFT, INC.
2800 Chrysler Building, New York

McINTOSH & SEYMOUR DIESEL ENGINES

left the Washington Channel, and tore across the raging waters of the Anacostia River entrance; then, heeling as she had never heeled before (it undoubtedly saved her), she skidded high and dry on the seaplane ramp at the Naval Air Station where we found her two days later, *unscratched and twenty feet from the water!*

There isn't much more to tell. We jacked her up and got her — on her side — on planks and rollers; then, with the aid of a long timber and a Chevrolet car, pushed her off until she was almost afloat. By hanging to her halliards, some of us hove her down while others kedged off the ledge, and *Hattie* was towed back to her mooring.

Beyond a slight leak that ceased entirely after a few days, the old boat was without injury, her sides not showing even a scratch! There is a difference, though. It lies in the amount of respect accorded her by the wiseacres along the waterfront. A lady that can go it alone in weather like that and come out unscathed is *some gal!*

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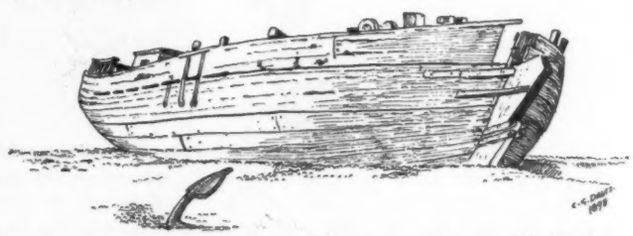
The Development of the Sloop

(*Continued from page 52*)

River sloop of 1830 which Laughlin McKay, a brother of the famous Donald McKay, of clipper ship fame, preserved for posterity in a small volume he put out showing plans of several types of vessels of his time. This sloop is 58 feet long, 20 feet 9 inches in beam, and 6 feet 6 inches depth of hold. In her one can recognize the characteristics of the New York harbor lighters of the 1880's, which it was the fate of many of the old river sloops to become in their last days. Bluff-bowed, flat-floored, wide and shallow, they were very fast sailers under the large sail plans they carried when they first came from their builder's yard.

For years the decaying hulk of one of these old river sloops lay on the gravel beach at Port Washington where we used to climb aboard and look her over. This sloop was the old *General Washington*, built at North Haverstraw, N. Y., in 1839. She was 66 14/95 tons measurement; 63 feet 9 inches long, 21 feet 1 inch beam, and 5 feet 10 inches depth in hold. The accompanying sketch is made from a photograph taken in the late 1890's.

While the model of the *General Washington* has not yet come to life, we have authentic plans of a sloop of the same approximate dimensions built the same year, 1836, at Nyack, N. Y., by William Dickey, in the *Robert Wiltsie*, of 70 8/95 tons, 63 feet 9 inches, 23 feet 5 inches beam, and 5 feet 9 inches depth of hold. These lines I took off the original block model which I have, the very model from which the sloop was built. They show a well-modeled craft of light draft, and one that the later builders of Hudson River sloops found it hard to improve upon except for certain refinements of rig and detail.



The wreck of the "General Washington," at Port Washington, New York

Jay–we've got it!

A LEVEL-RIDING BOAT WE CAN SELL FOR $595

Photo shows Jay W. Smith, President, and Harsen Smith, of Chris-Craft Corp., inspecting the new $595 runabout.

To be shown for the first time at the Chris-Craft Salon, 6 W. 52nd St., during the New York Motor Boat Show—and permanently thereafter.

WHEN these new runabouts came in from their first water tests, we knew we had something *big* — something revolutionary — in motor boat performance.

It's hard to describe LEVEL RIDING. You'll have to try it for yourself to realize how *different* it is—in speed, comfort, smoothness and enjoyment—from anything you ever experienced.

Every boat in the 1933 Chris-Craft fleet has LEVEL RIDING, but the great achievement has been to build this wonderful new principle into a full-sized, genuine runabout, of Chris-Craft quality throughout, to sell for only $595. Here is the boat you never dreamed could be produced, at a price you never thought possible. It costs $200 less than any quality runabout in the history of the industry; it will out-perform boats priced several hundred dollars higher.

Pep and go; style and beauty! Amazing maneuverability; stamina for an all-day run at 30-mile speed! A genuine Philippine mahogany hull, double-planked bottom, screw fastened construction, cam and lever steering, salt water equipment, life preserver cushions, automatic bilge bailer, electric self starter and electric lights!

The new 15½-footer is one of a complete line of runabouts up to 27 feet in length. All have LEVEL RIDING, and other refinements that make them the finest boats in Chris-Craft history. See them before you buy any motor boat.

CHRIS-CRAFT CORP., ALGONAC, MICH.
Direct Factory Branch, 6 W. 52nd St., New York City

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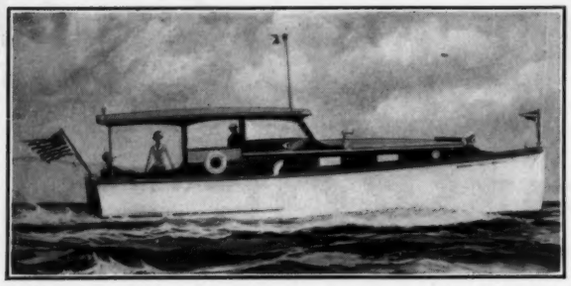
Chris-Craft

PRICED FROM $595 TO $13,950. F. O. B. ALGONAC

(167)



Wheeler selects
Buda 85 H.P. Diesel
for 34-ft. Stock Cruiser

OUTSTANDING value is the keynote of this compact, efficient, comfortable 34-foot Wheeler stock cruiser. The selection of the Buda-M.A.N. full Diesel power plant is typical of the care and thought this famous builder has exercised throughout the design and construction.

The Buda Model 6-DM-415 will prove the sensation of the 1933 Motor Boat Show for it is "the marine engine everyone has been waiting for." The highlights of this advanced Diesel are: 6 cylinders, 4 x 5½; develops 85 H.P.; weighs approximately 17 lbs. per H.P.; capable of installation in small boats, cruisers, fishing and work boats; has "*Shock Absorber Head*" which is not obtainable in any other Diesel; furnished with or without reduction gear; electrically started; fully equipped; and quoted at a price within reach of the small boat owner.

Don't fail to check this extra value Wheeler cruiser — and get special Bulletin on the Buda Diesel Model 6-DM-415.

At the Show!

The Model 6-DM-415 will be at the New York Motor Boat Show, January 20–28, Booth W

THE BUDA COMPANY

Harvey { Chicago / Suburb } Illinois

30 Church St. . . . New York

Up Through the Bahamas

(*Continued from page 35*)

on the sheet and lifting Charles off his feet. He froze on to that line like a vise, however, swooping across the deck like the tail of a kite, with Luis, pop-eyed, grabbing at his ankles like a tardy football tackler. They fetched up against the deck-block in a huddle; it looked as though Charles would be pulled clean through it, but he simply wouldn't let go, so there the performance ended. We sweated in the mizzen a bit, trimmed the jib sheets, and looked about us.

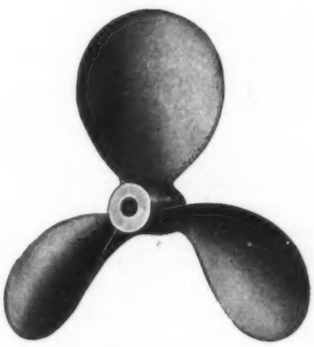
We were headed well offshore, and drifting about southeast, parallel with the island. This was a whole lot better, though it would scarcely do for all night. I checked up as accurately as possible by holding the lead line over the quarter, low down to keep it out of the wind, and the result was the same. So far as we could judge we were sidling along Eleuthera, about two miles out, and if all held as it was we would probably keep clear. A little more offing, however, was eminently desirable, and it was a welcome sound when the skipper announced the engine ready to start again. More canvas would have done the trick, but that infernal wind hadn't let up yet; none of us relished the job of getting it on her, and in any case it would have been hard driving.

With the Diesel going, all was easy. The canvas held her and the power drove her steadily offshore. We sank the surf and the palm trees before dusk fell, and in half an hour or so *Alice* was some two miles farther out, and quite content. Then the engine heated again, and went out of business for good, the water inlet pipes being solidly choked with rust and scale loosened by the first heating. But its work was done, and we proceeded to get dried and warmed and fed with supreme satisfaction, delighted with the behavior of the yacht. With plenty of sea room, the whole flurry would have been

Sketch of the Eastern Bahamas, showing route of "Alice"

Only *New Metal* goes into HYDE propellers

HYDE Bronze is the right metal for perfect propellers . . . hard enough so that Hyde Propellers do not spring or bend or lose their pitch under service strains yet not hard enough to shatter from impact with driftage or other submerged matter. To make Hyde Bronze the same every time means absolute control of formula . . . therefore ONLY NEW METAL goes into HYDE PROPELLERS.



HYDE WINDLASS COMPANY
Bath, Maine

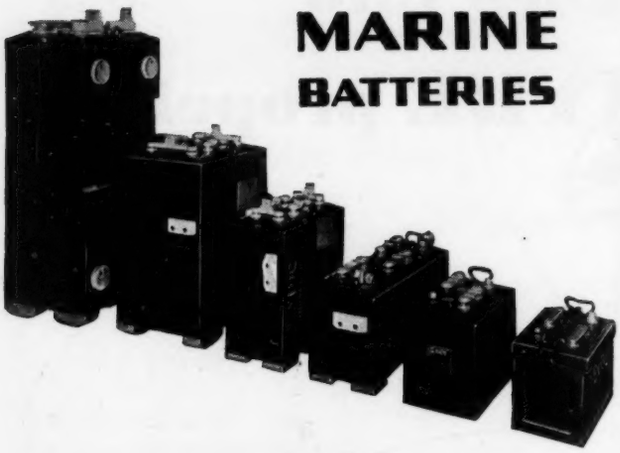
Dealers everywhere carry ample stocks

Send for this free booklet "Propeller Efficiency". It will tell you why Hyde Propellers often increase the speed of a boat and always get home safely.

HYDE PROPELLERS

Exide

MARINE BATTERIES



FOR EVERY BOAT

EXIDE Marine Batteries are not merely "landlubber" storage batteries made "sea-going" just by putting them aboard a boat. Exides are especially designed and carefully built to fully meet the electrical demands of every size and type of boat. It makes no difference whether it is an outboard motor boat, a large yacht, or an ocean liner—*there is an Exide Marine Battery which will fill its requirements dependably and economically.*

It will be to your advantage to investigate Exide Marine Batteries and the Exide Marine Floating Battery System. See the nearest Exide representative today or write to our nearest Branch Office for more detailed information.

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THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

merely interesting; as it was, there were awkward possibilities, which became just an adventure in a boat so well planned, built and equipped.

This far offshore the swell was longer and easier, and it became evident that the squall had struck us on the point of a large shoal that runs off near the head of the island, which accounted for the steep and vicious seas. After a few hours the wind was distinctly less, though stiff enough still, and toward midnight it had hauled several points east, so we set a double-reefed mainsail, came about, and jogged northwestward in good order.

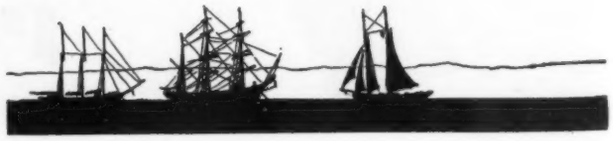
Thereafter it moderated slowly through the night, while the sky cleared, and morning found us on a gleaming indigo sea, comfortably lifting over long smooth rollers, with brilliantly clear air and a fresh northeast breeze, colder by far than anything we had felt in the islands. How that wind did cut into our tropic-softened skin! There was no land in sight, and our reckoning put us somewhere off the middle of the Northeast Providence Channel, so we headed southwest to pick up the north end of Eleuthera.

In due course the fringing palms broke the sky line — those queer ragged tufts of waving fronds which first stand out against the sky on approaching these low islands. We headed west and a bit south, skirting the banks which guard the land over the whole ten miles to Royal Island, where we would lie a day to catch our breath and spruce up the boat a bit for Nassau — and I must say that after the previous night a landlocked harbor sounded good. In due course we swung south to Egg Island, slipped around it on to the Great Bahama Bank, and worked up eastward over the limpid, light green water, as still as a lake, to the tiny harbor of Royal Island, which has a narrow entrance facing south onto the Bank.

Inside it was a mill pond, and *Alice* lay to her anchor so utterly still that it was hard to believe her afloat. It was the first harbor for us since Cape Haitien, and by far the quietest water we had seen for two months. An incredibly brilliant sun filled the pale blue sky with a dazzling flood of radiance, and winked up at us blindingly from the myriad tiny ripples which blurred and silvered the sheltered water. The northeast breeze drew across with a strange chill, and we sought sunny corners in the lee of boats or cabin; here was not only a new kind of island, but a new climate as well!

There we lay that day and the next, swinging idly to a slack cable, ourselves very much the reverse of idle. The skipper plunged into his engine room, to emerge only for food and rest until the engine was cleared of all obstructions and restored to perfect condition. The rest of us scraped, scrubbed, polished, sandpapered, painted and varnished according to our abilities. The cool air and the still water continued to cast a strangely unreal air of novelty over the scene, and the knowledge that only forty miles remained to complete a 3600-mile cruise gave a sober sense of finality to the hours.

And so at noon of the third day, when *Alice* slipped quietly through the "back door" at the east end of Nassau Harbor and dropped anchor in its great and varied fleet, before the town all gay and bustling with visiting Americans, our norther off Eleuthera seemed almost as far away and long ago as it does now.



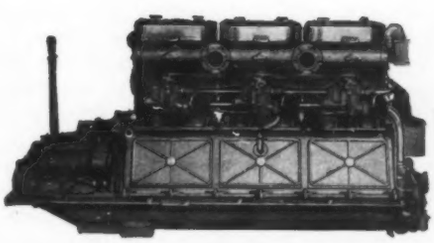
MURRAY & TREGURTHA FUEL OIL ENGINES
equipped with the
SHORE CARBURETOR MANIFOLD SYSTEM

Start and run
ON FUEL OIL

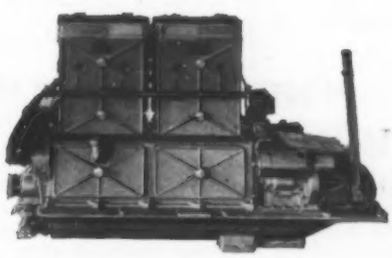
Gasoline entirely eliminated

Operation similar to a gasoline engine—control no more complicated.

Installation the same as a gasoline engine—same weight—same space.

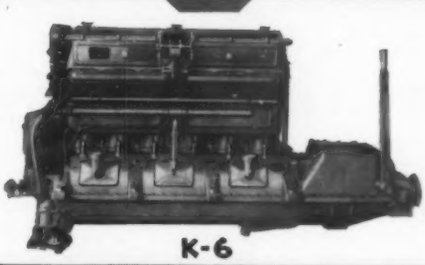


NOT A DIESEL



M-O-6 M-O-4

WE ALSO OFFER HIGH SPEED AND MEDIUM DUTY ENGINES EQUIPPED WITH



K-6

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MURRAY & TREGURTHA INC
NORTH QUINCY, MASS.

"NEW JERSEY" No. 339

Yacht Sea Green Anti-Fouling Composition

A Powerful Anti-Fouling Paint with a Glossy Green Color Much Favored by Yachtsmen

SPECIFICATIONS:

COLOR — Light Sea Green.
FINISH — Gloss, very smooth.
SCRAPING — Not necessary. Designed to wear down evenly in use.
PREPARATION — To repaint bottom use hand scrub brush to remove shine, and apply paint as it comes from the can.
RESULTS — a perfect racing bottom, well protected from fouling and attack by worms.

NEW JERSEY YACHT RED AND BEST BROWN COPPER PAINTS

Known to every yachtsman for their anti-fouling qualities.

NEW JERSEY YACHT WHITE

For use above the water line. Designed to withstand salt water, frequent washing, and wears down to an even surface to enable re-painting without scraping or burning off old paint.

"NEW JERSEY" SHIP AND DECK PAINT

These hull paints are designed to give long wear and minimum maintenance costs. The deck paint is now made in a variety of colors among which the more desirable are:

REDDISH BUFF AUSTRALIAN GREEN PINE

These new deck colors are becoming more popular each year.

Color cards for any kind of paint you may require furnished on request

New Jersey Paint Works

HARRY LOUDERBOUGH, INC.

Wayne and Fremont Streets

JERSEY CITY, NEW JERSEY

Write for free copy of "Davy Jones' Locker" booklet on painting

Booth No. 34 on the third floor. Our representatives would be glad to talk to you about your paint problems

Going Modern

(*Continued from page 41*)

The space forward of the saloon can be used either as a forward cockpit, or as a fo'c's'le. The toilet room is large enough to contain a medicine cabinet in addition to the usual standard equipment.

In order to get the maximum benefit out of this type of construction, it is necessary to utilize the best materials available. The installation of standard accessories should be carefully planned. Cabinetwork must be excellent, with clean, well-dressed lumber, insuring a flawless paint job. If absolute utility is the guide to design, rather than a striving for design first and then utility, there will be less likelihood of losing valuable space.

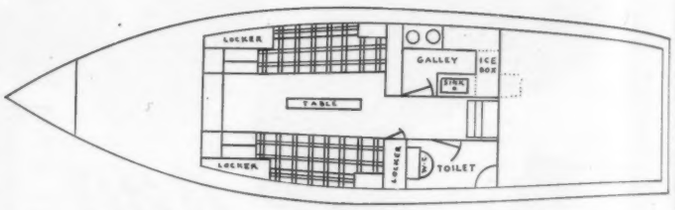


Diagram of typical layout of 35-foot power cruiser showing how every available inch of room may be utilized for handy stowage space

\+ + +

The Use of the Drogue

(*Continued from page 59*)

knots, depending upon the type of craft and whether she is hove to under a drogue.

Length of Warp: While the warp should be veered enough to minimize the tendency to surge the drogue toward the surface and also to provide ample spring, there may lie some danger in veering too great a length, especially in a rapidly-making sea. Length, then, has no direct relation to the size of the vessel — except where greatly increased freeboard would call for some additional scope — but should be gauged from the nature of the seas encountered. Were the warp longer than half the wave-length, there would, conceivably, arise the situation in which the vessel is rapidly being thrust to leeward on the crest of a breaking sea, while the drogue, well anchored, is actually being forced to windward by the reverse movement of the redounding wave particles in the belly of the following sea. (See Sketch No. III.) The successive snubs not only will hamper the vessel, but also will be damaging to the drogue, which may be more sorely needed *after* the seas have assumed their normal length. It is well to bear this in mind when heaving to in a squall of hurricane force in which the seas are very steep and short and appallingly regular. In such an event, the warp should be fed out carefully while observing the position of the buoy, so that the drogue — if the first hollow is too close for proper functioning — can be placed in the *second* hollow, or even in the back of the next wave. One should think twice, however, before attempting to use the drogue under these conditions, unless absolutely forced to do so because the vessel is laboring dangerously in the troughs and cannot be brought out of them by any other means. Once the drogue is overboard, the main thing is to watch its action, and horse-sense must be relied upon until sea sense comes through experience.

As the seas in which one usually heaves to will run from 350 feet and upwards, there is little risk of an overlong warp, since the small offshore cruiser rarely carries more than 150 feet, which is the length prescribed by

NEW NOVEL FEATURES

NEW LOW PRICES

for 1933

SEE this new 46′ diesel cruising yacht at the Show. Luxurious comforts for a party of six and crew. Very low operating cost. . . . A real surprise is our new 34-footer, diesel powered; with novel layout and cruising comforts for six. At the strikingly low price of $5,950. . . . Other diesel cruisers up to 80 feet.

NEW Low Prices

27 Ft. (Sleeps 4)	$2,500
30 Ft. (Sleeps 5)	3,550
34 Ft. (Sleeps 6)	4,450
38 Ft. (Single Cabin)	4,950
38 Ft. (Twin Cabin)	5,850
38 Ft. (Comb. Sedan)	7,450

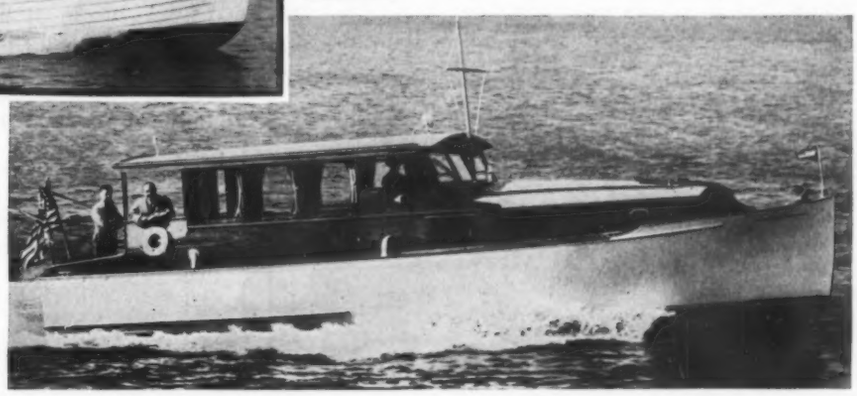
6 NEW Boats at the Show

Entirely NEW 38-Foot Models

Combination sedan; twin cabin; double cabin; single cabin sport cruiser. Many new features and new low prices. Two models at the Show.

Write for literature, indicating size and type of boat in which you are interested.

NEW 38-Ft. Combination Sedan



SEA SKIFFS

Great values for fine boats. 22′, 26′, 28′, 30′, 34′. Various arrangements, fishing and cruising models, runabouts, tenders and sport cruisers. Prices as low as $1200. Two models at the Show.

WHEELER SHIPYARD, INC., Foot Cropsey Avenue, MAyflower 9-7600, Brooklyn, N. Y.

WHEELER PLAYMATES

A new nautical

BAROMETER

This extremely accurate, compensated, nautical barometer has been especially designed for yachtsmen. It is entirely unaffected by changes in climate or temperature, and all parts are so balanced as to nullify the roll and pitch of the boat. This modern barometer, actuated on a new principle by Hydron metallic bellows, is extremely sensitive; it foretells changes in wind long before they register on the old type of barometer actuated by diaphragms. It is a very superior product priced within the means of any yachtsman. See it at Booth 69 at the New York boat show or write for further information.

and an accepted

SPEEDOMETER

The Kenyon Speedometer and Log was an outstanding nautical instrument in 1932. Eight of the first nine to finish in the Bermuda Race were Kenyon equipped. Its sensitive accurate mechanism tells when maximum drive is secured from every sail. It registers speed and changes in speed caused by a change in a single sail setting. It is unbelievably accurate. The 1933 model is enclosed in a hermetically sealed case that absolutely protects the sensitive mechanism from salt air and moisture. It has a new specially built clock mechanism. Inspect it at Booth 69 at the New York boat show or write for our booklet.

KENYON INSTRUMENT CO.

564 East First Street **Boston, Mass.**

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KELVIN-WHITE COMPANY

112 State Street, Boston **38 Water Street, New York**

BY KENYON

Voss. An overall length of more than 175 feet, including that which is inboard, around the drum and made fast to the mast, is not advisable.

Size of Warp: Figure one inch of circumference for every ten feet of waterline.

Size of Trip: Halve the circumference of the warp.

Tripping: The initial pull required to spill a drogue is surprisingly great — from one-fourth to one-half the strain on the warp — and, for this reason, if a line of the required size is not already fitted or available, it is better to unreeve a halliard, or to do *without a trip*, rather than to attempt such small stuff as a flag halliard or lead line, either of which may be urgently wanted later on.

When ready to trip, it is well to bring the line aft and then to exert a steady pull. In the smaller sizes, the drogue should capsize without great difficulty, and as soon as the line begins to give, it should be walked forward again, tension being maintained so that the drogue will remain collapsed, where both the trip and the warp are taken in together in such a way that the drogue will come home sidewise. Unless the drogue is loose-mouthed, it should not be completely reversed lest it set up so much drag that it cannot be overcome by the trip line.

In the larger sizes, tripping is apt to be quite another matter, for if the line will not give without exerting too great a strain, one must trip by the warp.

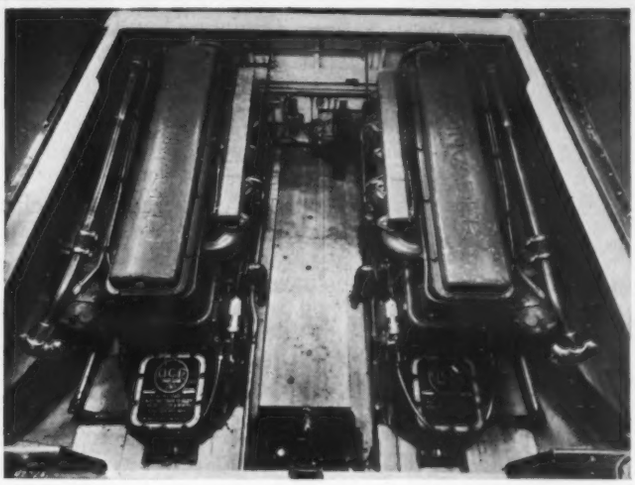
I am going into this at some length as it may be vital to take in the drogue during the height of the gale and then to reset it without the ring or cross bars, in order to lessen the drag if it is found that the vessel is standing too hard against the seas — that is, if the drift is overchecked.

As but one turn was left on the drum, it will be necessary to haul on the inboard end of the warp in order to fetch another turn or two. If this cannot be done by hand, clove-hitch a piece of small line to the warp, close abaft the drum, and then cast on a turn or two, thus clamping and leading the warp around as the winch is hove, the pawls being set. Failing this, slack may be taken in by means of a spare tackle run to the mast, in case there is length enough to allow for considerable slip while casting on the extra turns after the tackle is released from the warp — *when the vessel is on the back of a sea.*

Winch in three or four fathoms of the warp, clearing it of chafing gear and strops, but leaving the bitter end still fast to the mast. With the trip hauled taut from forward, the warp is now run out over the free-turning drum, *smartly* at first to stop the drogue — one man overhauling from forward of the winch as handsomely as he is able, while another feeds clear to the drum — and then, as the bag begins to spill, the trip being well tended, the warp must be veered more slowly in order to avoid a sudden jerk should the drogue fail to capsize.

Another method is to use a boom tackle, the standing block being secured well aft so that when the tackle is fleeted at least three fathoms of the warp have been brought in. As the warp must be cast off the mast in order to win this slack, it will be necessary to run a preventer from the mast to the warp, so that when the tackle is cast off the end of the warp can be secured to the mast again. The trip is now hauled taut and the preventer cast off the warp which is run out, as already directed, at that moment when the vessel is starting to slide down the back of a sea. But this maneuver must be executed with due caution, the men at the preventer and the trip being well instructed, and those at the winch observing care in avoiding chinckles in the warp

Beeswing III, built by Purdy Brothers of Port Washington, L.I. for Mr. Paul Moore. Length 45', beam 11' 6", draft 32".



Hall-Scott 250 h. p. twin INVADERS *turn 20 x 20 Style I Columbian propellors 2180 r. p. m. for a speed of 32.6 m. p. h. Note the accessibility and clean installation.*

a.c.f. Hall-Scott

Hall-Scott INVADERS

give the Beeswing III a speed of 32.6 m.p.h.

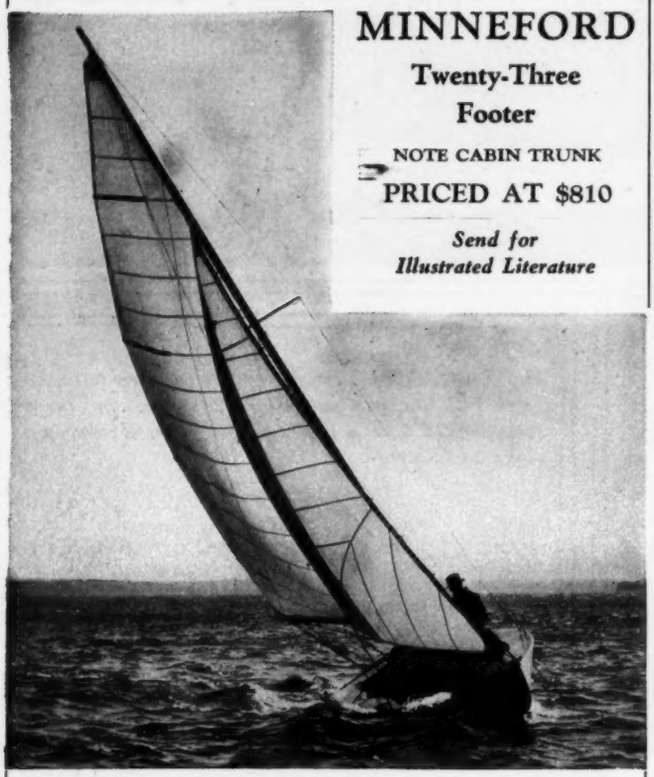
Designed for southern fishing, and built in the yards of Purdy Brothers, Port Washington, L. I., the Beeswing III was given her trial runs in Long Island Sound on one of the coldest days of the winter. Spray froze the moment it struck the windshield. Yet, the pair of 250 h. p. Hall-Scott INVADERS gave to this trim 45-footer a speed of 32.6 m. p. h., or 2.6 higher than the guaranteed speed, over the measured mile course from City Island to Harts Island. Every other test was equally successful and the Beeswing III, now in the hands of her owner, Mr. Paul Moore, of New York and Palm Beach, begins her first season in Florida waters.

Weather, water, and temperature are no handicap to Hall-Scott. Built for sturdy, efficient use, Hall-Scott motors deliver their power steadily and economically under all conditions. If you are seeking speed and service, dependability and ease of operation, it will pay you to consider the Hall-Scott line carefully before you build or re-power.

HALL-SCOTT MOTOR CAR COMPANY

Division of American Car and Foundry Motors Company • 254 West 31st Street, New York

BERKELEY, CALIF. • SEATTLE, WASH. • VANCOUVER, B. C. • LOS ANGELES, CALIF. • DETROIT, MICH.
IN MIAMI, FLA., J. FRANK KNORR • IN NEW ENGLAND, MARINE EQUIPMENT CO., OF BOSTON, MASS.



MINNEFORD

Twenty-Three Footer

NOTE CABIN TRUNK

PRICED AT $810

Send for Illustrated Literature

MINNEFORD YACHT YARD, INC.
CITY ISLAND NEW YORK

$4250

For that price we will build the one design racing cruiser, 33′ 6″ over all, designed by Mower, and described in the January issue of Yachting.

This price includes engine, spars, jib and mainsail, and interior fittings shown in the article.

This is a handsome, useful auxiliary racing cruiser and we believe that she will be very fast and that she will in every way fulfill the functions suggested.

MINNEFORD YACHT YARD, INC.
CITY ISLAND NEW YORK

while keeping their fingers from being jammed in the drum as the warp is payed out.

By these means the drogue should be handily collapsed, unless the trip has fouled or parted. Then it becomes a business of arduously winching in the entire warp — a deal of needless exertion being spared by holding for a moment as the vessel nears the crests — till the drogue is close aboard where a bridle part can be reached with the boat hook. Usually the drogue does not have to come home till the weather has moderated sufficiently for the vessel to resume her course, and so, fore-reaching under middle sail, or under power, the drogue can be luffed up to, with the foredeck free, so that the warp can be taken in hand over hand fast enough so that it will not loop under the hull or foul the propeller.

\+ + +

That Curry Racer

(*Continued from page 43*)

we did not use it much. In a closely matched class, with many boats rounding a mark in close quarters, it might prove invaluable in slowing one down just enough to keep clear. It does no harm, and sometimes may do some good, although it is just one more thing for the helmsman to keep on his mind.

The Curry racer will, I think, never fill the place in this country of the displacement yacht where the latter can be sailed to advantage. But on waters where a centerboard boat must be used, or where the winds are prevailingly light, she should prove popular. One will get more thrills out of sailing her than he will from a heavier displacement type. With the scows, she represents the highest speed yet attained in small sailing craft.

She is more refined than the scow, and starts to move more quickly and easily, but my personal opinion is that the scows have the legs of her in anything except the lightest of weather. As I said at the start, we were all new to the type and perhaps we did not get the most out of her. But even with the best of crews, my money would go on the scows in anything over a 12-mile breeze of wind.

\+ + +

A Portent for 1933

(*Continued from page 30*)

gross tons, or about 40 to 45 feet overall), all inboard runabouts, and those few outboards that are more than 16 feet in length. Beginning this season, all outboards used on federal waterways will be numbered, no matter if they are less than 16 feet in length, provided they are intended primarily for motor propulsion, and are not actual rowboats, sailboats, or canoes.

Federal Registrations of Motor Boats
New York City District

	1931	1932
Custom built runabouts, cruisers	304	230
Stock runabouts	307	177
Stock cruisers	216	102
Large outboards (over 16 feet)	177	151
Built by amateurs for own use	341	364
Total new motor boats	1,345	1,024
Conversions to power	246	260
Removals to district	264	206
Miscellaneous additions	162	185
Total additions to federally numbered fleet	2,017	1,668
Used inboard boats transferred	4,097	3,138
Used large outboards transferred	82	119
Total used motor boats sold	4,179	4,257

THURBER CUSHING

Robinson Specializing in Custom Built Craft

REALIZING that the trend of present day yachting is swinging back toward the old established and satisfactory methods of having boats designed and built to one's individual requirements, the Robinson Marine Construction Company have changed their former policy of stock boat building to that of strictly custom boat building.

The plant facilities and the skill of the personnel of the Robinson Marine Construction Company are equal to any in America, and years of effort and experience, backed by a consistent record of fine boat production, give a guarantee of quality boat building and the ultimate in owner satisfaction.

Robinson Seagull yachts, commuters, and runabouts — of custom design — have always set an enviable standard of boat building excellence that is recognized wherever a premium is placed on beautiful appearance, dependability and ruggedness.

The success which Robinson has so long enjoyed is due in large measure to the policy of building boats to suit individual needs — custom boats so far as interior arrangements go — but with the advantages of tried and tested hull performance. This policy will be continued. It will be augmented by a special Custom Design Department, with enhanced designing scope and under the supervisory control of one of the leading naval architects in this field. Thus, at the Robinson plant every facility is offered the discriminating yachtsman in search of a boat which will meet his own ideas of comfort, completeness, security, and individuality.

In the past, those who would have preferred a boat that reflected their own tastes believed that they were penalized by the excessive cost of custom designs. This is no longer true. Pioneers in the idea that custom arrangements should and could be obtained at the equivalent price of stock designs, the builders of Robinson boats set to work and proved this a fact.

During 1932 Robinson Marine Construction Company built boats for the U. S. Coast and Geodetic Survey, the U. S. Navy, U. S. Engineers, Union Electric Light and Power Company, as well as several privately owned craft.

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New Scripps Booklet Ready

AN interesting booklet containing a complete description of the new V-12 series of Scripps marine engines has been published by the Scripps Motor Company and is now ready for distribution.

Readers of YACHTING may secure a copy by writing direct to the Scripps Motor Company, 5833 Lincoln Avenue, Detroit, Michigan.

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A New Bendix Magneto

BENDIX Magnetos, a new product of the Scintilla Magneto Co., Inc., and Bendix Impulse Couplings are in production in the Scintilla factory of the com-

Bausch & Lomb Marine Glass — magnifies 7 times; 2-inch objective lenses. Marvelous optics. Supremely rugged. Made in U. S. A.

Choice of Experts . . . .

MEMBERS of the U. S. Coast Guard boast of this Bausch & Lomb Marine Glass. Users write, "The finest ever — for day, for night, for dirty weather." Remarkable light-gathering power. Far-distant details imaged with startling clearness. Beautifully balanced one-piece body — dust-proof, moisture-proof. At dealers, with sole-leather case and straps, $105. Other Prism Binoculars, $50 to $121. All made of Bausch & Lomb glass. Lifetime guarantee. Write for informative Catalog.

BAUSCH & LOMB OPTICAL CO., 722 ST. PAUL STREET, ROCHESTER, N. Y.

BAUSCH & LOMB

BINOCULARS

Barbasol

"THE EARLY BIRD GETS WISE"

YOU'D BETTER HURRY YOU'RE TEN MINUTES LATE ALREADY
ALRIGHT DON'T GET EXCITED - I DON'T HAVE TO GET UP SO EARLY
I'D LIKE TO KNOW WHY NOT!
BECAUSE I BOUGHT SOME BARBASOL
JOHN T. WHISKERS WHAT ARE YOU TALKING ABOUT ?
BARBASOL YOU CAN SHAVE QUICKER WITH IT BECAUSE THERE'S NO BRUSH - NO LATHER - NO RUB-IN
HOW DO YOU KNOW IT'S SO GOOD
ALL THE BOYS AT THE OFFICE USE IT - IT'S GREAT STUFF - ZIP RIGHT OFF
BARBASOL, BARBASOL DAH-DE-DAH - DE DAH-DAH
Hal Stephen

SHAVE WITHOUT LATHER! Use Barbasol for the quickest, cleanest, most comfortable shave you've ever had. Do away with all the old fuss and muss, the harsh, biting alkalis that torture a tender skin. Barbasol holds the whiskers erect so the razor can slice 'em off clean and quick, without a pull or a scrape. Leaves the natural oil in the skin, protects it from sun- and wind-burn, keeps the face soft and smooth. Get a tube today. Use it this way: **1.** Wash your face and leave it wet. **2.** Smooth on Barbasol (no vigorous rubbing needed). **3.** Wet your razor and SHAVE! That's all—and what a shave! Generous tubes at all druggists', 35¢ and 65¢, or large jar, 75¢.

Barbasol recommends TEFRA TOOTHPASTE

In every 30¢ tube there is a free Tefra toothbrush refill, to fit a lifetime Tefra refillable toothbrush handle. For full information, tune in Barbasol radio programs listed.

THE BARBASOL COMPANY
Indianapolis, Indiana

Singin' Sam, the Barbasol Man, in songs you can't forget. Every Monday, Wednesday and Friday evening, at 8:15, Eastern Standard Time, over an extensive Columbia (WABC) Broadcasting hook-up.

Barbasol Round-up with Carson Robison and his Buckaroos, in songs of the plains and mountains, WEAF-N.B.C. Red Network, Tuesdays and Thursdays, 7:30 P. M., Eastern Standard Time.

Consult radio page of your local newspaper for stations

pany at Sidney, N. Y. While a number of these have been sold to engine manufacturers, they have not previously been announced to the trade or general public.

These magnetos are constructed on the rotating magnet principle — coil, breaker and condenser being stationary. The use of slip rings or collector rings is consequently eliminated. The magneto is completely enclosed and fully protected against dust, dirt, oil and water. Adequate air circulation is provided, however, through the magneto. The contact breaker is a new pivotless design, no breaker lever pivots being used. A large felt wick oiler lubricates the breaker cam. The distributor shaft, as well as the drive shaft, is mounted on ball bearings, packed in grease. These features enable the magneto to operate for long periods without attention.

Bendix Impulse Couplings — a new, heavy-duty type of coupling — are offered as equipment with Bendix Magnetos. These are supplied either for automatic or for manual control.

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A New Gyro-Stabilizer Booklet

THE Sperry Gyroscope Company, of New York, have recently published a most attractive booklet on their Gyro-Stabilizer which will interest every yachtsman, whether or not he has a boat large enough to "be stabilized." In it the effect of excessive rolling on the ship, as well as those aboard her, is shown, graphically and otherwise, and an outline is given of the early attempts at stabilization. Technically, the principle and operation of the Gyro-Stabilizer is described, and the results achieved are shown graphically by diagrams. There is an interesting foreword by Ellis Parker Butler, and a tinted frontispiece from a painting by Rudolfo Clandus, of a steamer rolling in a heavy sea, that will make a special appeal to the sailor.

The latest and largest stabilizing job, on the Italian liner *Conte de Savoia*, is described in all its interesting detail, and outline drawings of the various yachts and commercial vessels to be equipped with stabilizers are shown, from the little power boat *Fan Kwai*, to the big Italian passenger ship just mentioned. The booklet as a whole is a fine piece of work.

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Bliven and Neuroth, Yacht Brokers

THE firm of Bliven and Neuroth, yacht brokers, state that they were particularly successful this year in moving power cruisers up to 60 feet in length. Located in New Rochelle, they have many contacts in Westchester and in Connecticut.

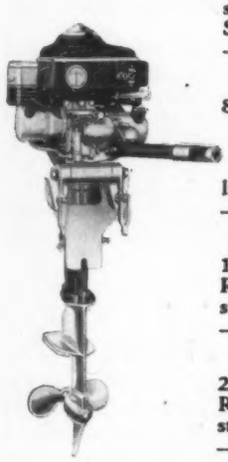
The members of the firm, Charles Bliven and Allan C. Neuroth, are widely known to yachtsmen on the western end of the Sound. This fall they inaugurated a new type of brokerage service, with fast runabouts ready to take prospects out to see the boats they have for sale. In addition to listing many used boats, next season the firm will be representatives of Wheeler Shipyard, American Car and Foundry, Marblehead, and Whitneyachts.

Elto Announces Super Series

6 Brilliant Rotary Valve Models.. From 2.2 to 31.2 Certified Horsepower.. Priced as low as $69.75

SUPER SINGLE
Develops 2.2 brake H. P. at 3500 R. P. M. (N.O.A. certification). Weighs only 32 lbs. Has every Super Series feature including Rotary Valve, Underwater and Carburetor Silencers, One-Lever Control, Flash-Start Primer, standard Elto Battery Ignition.

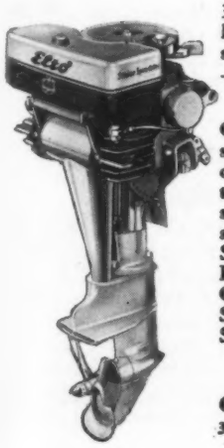
LIGHTWEIGHT $99.75
Develops 5.1 brake H. P. at 3750 R.P.M. (N.O.A. certification). A superbly smooth "twin", the Lightweight offers every super series feature, (see Super Single above).



SUPER "A"
8.5 brake H. P. at 4000 R.P.M. Weighs 66 lbs. ...$149.50. With new type electric starter (illustrated at left), $195.00.

JUNIOR QUAD
16.2 brake H. P. at 4000 R.P.M. $215.00. Electric starting model...$265.00.

SUPER "C"
21.1 brake H. P. at 4000 R.P.M. $230.00. Electric starting model...$285.00.



SENIOR QUAD
31.2 brake H. P. at 4000 R.P.M. $295.00. Electric starting model...$355.00.

SERVICE SERIES
Generous power and dependable service at an absolute minimum of cost. Four models whose reputations have been established by splendid performance for thousands of owners. Illustrated is Senior Speedster, 13.7 brake H.P. at 4000 R. P. M., $145.00. Other models: Fisherman $82.75; Service "A" $115.00; Special Speedster; $125.00. Catalog free.

ELTO DIVISION
Outboard Motors Corporation
3314 N. 27th Street, Milwaukee, Wis.

ENGINEERING features that have made outboard history — developments responsible for new peaks of power, new championship speeds, new smoothness, quietness, durability — now you can have them in *every* motor size — even in handiest utility sizes — new motors that smash every Elto precedent for *price* and *value*.

The Super Single at $69.75, the Lightweight at $99.75, typify the outstanding values built into *every* Super Series motor. *Every* model has the gearless, trouble-free Rotary Valve that adds so amazingly to power, smoothness, flexibility. *Every* model is scientifically silenced — under water! *Every* model is rated on brake horsepower delivered at service speed, with all ratings certified by National Outboard Association. You *know* that the horsepower you buy, you will *get!*

Send today for catalog describing many new outboard developments, including new-type electric starting, now available on four Super Series models.

LOOK FOR THIS SEAL ON THE MOTOR YOU BUY.
DESIGNED BY Evinrude

Elto

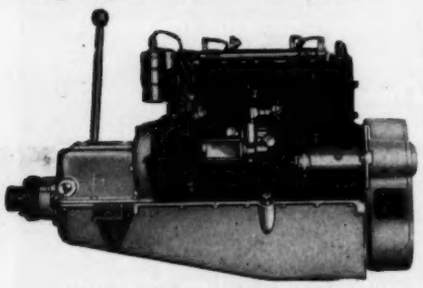
SUPER SERIES . . . . . SIX MODELS
SERVICE SERIES . . . . . FOUR MODELS
RACING SERIES . . . . THREE MODELS

U. S. FALCON Marine Engines

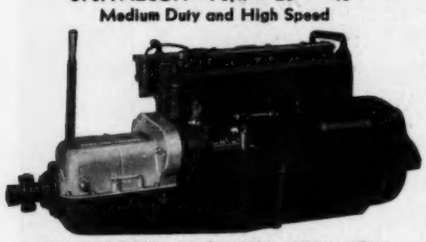
After all, the true test of a line of marine engines is OWNER SATISFACTION. And owner satisfaction can come only from true, dependable performance.

That is the history of U. S. FALCON MARINE ENGINES. Feature for feature — there are no finer engines. Here is a range of sizes to fit every need — 1-2-4-6-cylinder — 5-10-26-46-35-45-70-80-90 H.P. — Medium or high speed — for runabouts, work boats, auxiliary for small sailboats, tugs, cruisers.

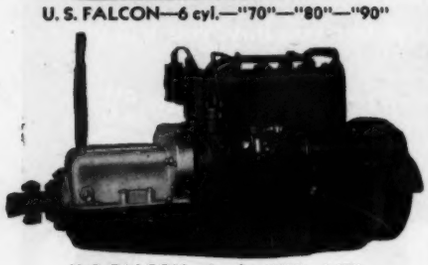
Tell us what you have in mind. We will send you complete information. Remember, we back your choice with the strongest guarantee on the market.



U. S. FALCON—4 cyl.—"26"—"46"
Medium Duty and High Speed



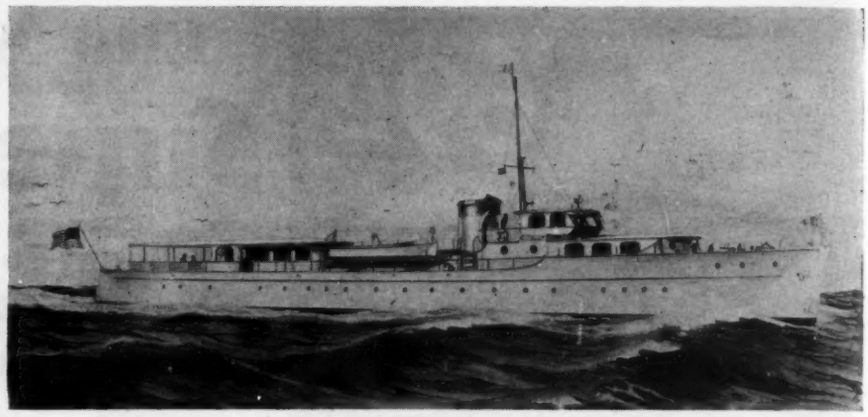
U. S. FALCON—6 cyl.—"70"—"80"—"90"



U. S. FALCON—4 cyl.—"35"—"45"
Medium Duty—Direct Drive

U. S. MARINE LIGHTING PLANTS — insure positive, cruiser comfort, absolutely dependable, trouble free, vibrationless operation. Line ranges from 350 wts. to 15 K.W. Ask us for complete data.

United States Motors Corp.
"PRODUCTS BUILT TO GIVE SERVICE"
EST. 1900
OSHKOSH 102A Nebraska St. WISCONSIN



This handsome new 123-foot Diesel yacht is to be built this year from designs by John H. Wells

Midshipman II

(*Continued from page 100*)

The Midshipman II will be supplied, where desired, with 2:1 or 3:1 reduction gears. The latter has been designed to fit any engine up to 75 h.p. and can be adapted to almost any conversion motor now on the market.

The G-W Stern Drive also has been redesigned and is now available in two models, A-50 and A-25, for engines up to 50 h.p. and 25 h.p. respectively. Both models are available with 1:1 or 1¼:1 reduction.

The Gifford-Wood Company, Hudson, N. Y., manufacturers of the Midshipman motors, and G-W Outboard Drives, have been known as producers of fine machinery since 1814.

A complete exhibit of Gifford-Wood's marine equipment will be displayed at the New York Motor Boat Show.

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A New Diesel Yacht by John H. Wells

THE reproduction at the head of this page shows a new yacht which is being designed by John H. Wells, Inc., of New York, for a Cleveland, Ohio, yachtsman.

The general dimensions are: length o.a. 123′, l.w.l. 121′, beam 20′, draft 6′ 6″. The hull is to be of steel, of relatively heavy construction, with an outward curved bow and a compromise stern. The decks are teak over steel. The deckhouses are also of steel with teak trim. The heights are kept so that the yacht can be run through the Barge Canal between Buffalo and New York.

In the arrangement, the crew's quarters are located forward, and provide comfortable sleeping accommodations for 8 to 9 men. The galley is below decks, with forward deckhouse containing dining room, steering shelter and captain's room. The navigating bridge is located immediately abaft the pilothouse. A ventilating trunk is built over the machinery space amidships, while the after deckhouse is about 19′ in length, and the after deck has a solid roof. Below decks, aft, there are three double staterooms and one single stateroom, and three baths, the owner's room being particularly comfortable for long cruises.

The power plant will consist of two Winton Diesel engines. The amount of power has not as yet been determined. With the original plan proposed, speeds up to 16 m.p.h. would be possible, but should the larger engines now contemplated be installed, speeds up to 18 m.p.h. would be possible.

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Hacker Custom Boats

THE Custom Department of the Hacker Boat Company reports a wide interest in custom built boats. Their drafting department has been kept busy drawing up plans of new boats for yachtsmen who are fond of following the construction of a boat and incorporating their individual ideas.

John L. Hacker, N.A., whose boats and designs are as famous in Europe as in America, designs and directs the building of the Hacker custom built boats. From the amount of work on hand and the number of inquiries, he believes that there will be increased boat buying activity in 1933, particularly by yachtsmen who are seeking the distinct individuality provided by custom design.

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Pierce Paints

THE F. O. Pierce Co., of Brooklyn, N. Y., are showing a number of attractive ship models, a series of painted panels, and samples of the various marine paints and varnishes which they manufacture. Of special interest is Pierce Deck Paint, which is not only a long-wearing deck paint, but one which, it is said, will neither chip nor crack under any condition of weather.

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P. J. Durham Co.

THE P. J. Durham Co., of New York, are showing a remarkably complete exhibit of motor boat "jewelry" turned out by a variety of well-known manufacturers. Included in the exhibit are batteries, starters, generators, electric fuel pumps, high speed coils, horns, gauges, heat indicators, tachometers, carburetors, ignition units and parts, battery cables, etc.

The 1933 Sunbeam Cruisers

"46"–"50"–"58"–"65"

Advanced Design—Superior Construction and Dashing Smartness Too!

GREBE-SUNBEAM cruisers offer custom-built quality at standardized prices. Years of experience skillfully incorporating all modern improvements bring to these new 1933 Sunbeam cruisers a new note of luxury and cruising comfort. You will be surprised at the low prices at which these high quality cruisers are available. Prices range from $13,850.

Investigate these remarkable cruiser values

HENRY C. GREBE & CO., INC.

400 NORTH MICHIGAN AVE., CHICAGO

HOTEL DETROIT-LELAND

800 ROOMS
ALL WITH BATH

RATES

from $2.50 SINGLE

from $3.50 DOUBLE

CORNER CASS AND BAGLEY AVES.

Safe!

All Through the Night

SAFELY anchored and all hands turned in for the night. A short circuit ignites gasoline in the engine space and by the time the sleepers are awakened, the engine is enveloped in flame. A serious predicament were it not for the LUX System.

Ten seconds to reach the LUX Control Handle . . . a quick pull floods the entire bilge and engine space with harmless but fire-killing LUX gas. Instantly all flames are OUT!

LUX has been tested and proved in operation hundreds of times. It is the accepted means of fire protection for ocean liners, the U. S. Navy, Coast Guard and over 3000 yachtsmen.

Booklet, "Cruising Without Fears" sent free on request. » » »

LUX

Walter Kidde & Company, Inc., 140 Cedar St., New York